British Medical Association
August 1897.

004770

SPECIAL EDITION
OF THE
CANADA LANCET

Commemorating the Meeting of the British Medical Association at Montreal, August 28th, 1897.

Western Assurance Co.

HEAD OFFICES:
Cor. Wellington and Scott Sts.
TORONTO

Capital (subscribed)	$2,000,000.00
Capital (paid up) -	1,000,000.00
Cash Assets over -	2,325,000.00
Annual Income over	2,300,000.00
Losses Paid Since Organization over	24,000,000.00

. DIRECTORS .

HON. GEO. A. COX, President.
J. J. KENNY, Vice-President and Man. Director.
HON. S. C. WOOD.
ROBT. BEATY.
G. R. R. COCKBURN.
H. N. BAIRD.
GEO. McMURRICH.
W. R. BROCK.
J. K. OSBORNE.
C. C. FOSTER, Secretary.

Agencies in all principal cities and towns in Canada and United States.

The Hunter, Rose Co., Limited, Printers, Toronto.

The Imperial Life Assurance Co. of Canada.

Head Office : : - TORONTO, CANADA.

Incorporated by Special Act of the Dominion Parliament.

CAPITAL, ONE MILLION DOLLARS.

Deposited with the Dominion Government for the Security of Policy Holders . . . **$242,200.00,** Being the LARGEST DEPOSIT of any Canadian Company. . . . .

BOARD OF DIRECTORS:

PRESIDENT:

THE HONORABLE SIR OLIVER MOWAT, P.C., G.C.M.G.,
Minister of Justice.

VICE-PRESIDENT:

JOSEPH W. FLAVELLE, Esq.,
Managing Director, The Wm. Davies Co., Limited, and Director Canadian Bank of Commerce.

THE HONORABLE SIR MACKENZIE BOWELL, P.C., K.C.M.G., Senator, Ex.-Prime Minister of Canada.

THE HONORABLE J. D. EDGAR, P.C., Q.C., M.P., Speaker House of Commons.

THE HONORABLE WM. HARTY, Commissioner Public Works, Ontario.

THE HONORABLE GEO. A. COX, Senator, President Canadian Bank of Commerce.

THE HONORABLE S. C. WOOD, Managing Director, Freehold Loan and Savings Co.

J. J. KENNY, Esq., Vice-President Western and British America Assurance Companies.

J. H. PLUMMER, Esq., Assistant General Manager Canadian Bank of Commerce.

A. E. AMES, Esq., of A. E. Ames & Co., President Toronto Stock Exchange.

HUGH N. BAIRD, Esq., Grain Merchant, Director Western Assurance Company.

F. R. ECCLES, Esq., M. D., F.R.C.S., Etc., London, Ont.

A. E. KEMP, Esq., President Kemp Manufacturing Co., and Second Vice-President Toronto Board of Trade.

Managing Director:
F. G. COX, Esq.

Superintendent:
R. JUNKIN.

Solicitors:
MESSRS. EDGAR & MALONE.

Chief Medical Referee:
JOHN L. DAVISON, B.A., M.D., C.M., M.R.C.S.

This Company Issues Policies on . . . .

All the Approved **Plans of Life Assurance** and Annuities.

POLICIES.....

Unrestricted and World-Wide From Commencement.

Guaranteed Cash Surrender, Loan and Paid-up Values.

Policies Automatically Non-Forfeitable After Three Years.

F. G. COX, Managing Director, 26 King St. East, Toronto.

BOVRIL

Doctor, please give this preparation a trial with one of your delicate patients.

BOVRIL, Limited, - 30 Farringdon Street, - London, Eng.

Food Specialists and Contractors to H. M. Government.

TRUSTEES.

His Grace the Duke of Somerset. | The Right Hon. Earl De la Warr.

DIRECTORS.

The Right Hon. Lord Playfair, G.C.B., LL.D., Chairman.
I. Lawson Johnston, Vice-President.
Viscount Duncannon, C.B., Director of the L. B. and S. C. Railway.
G. Lawson Johnston, Esq.
Sir Edmund Commerell, V.C., G.C.B., Admiral of the Fleet.
Dr. Farquharson, M.P.
Frederick Gordon, Esq., Chairman Gordon Hotels, Limited.
Andrew Walker, Esq., Managing Director.

CONSULTING CHEMIST—Professor Sir John Frankland, D.C.L., F.I.C., Corr. Man. French Institute.

Canadian Branch—27 St. Peter Street, Montreal.

F. C. SILCOCK,
Gen. Manager for Canada.

PICTON, ONT., Aug. 26th, 1897.

I am, both in person and in my professional work, greatly indebted to the preparations introduced by Messrs. Brand, and in particular their well-known Essence of Beef. From experience in a considerable number of cases of continued fever, pneumonia and other exhausting diseases, among which typhoid fever deserves especial mention, I can speak most highly of the strengthening properties of the Essence. In ulcerated stomach, whether simple or malignant, and in intractable dyspepsia, not only can the Essence be borne without discomfort, but frequently paves the way to the exhibition of other forms of nutriment. After surgical operations, nothing I have found more rapidly relieves the patient from shock and from the nausea following anaesthetisation than the repeated administration of the Essence with or without the accompaniment of alcoholic stimulants. In short, as a tonic, a stimulant and a very perfect food, I am sure the preparation deserves the attention of every medical man, and the profession, no less than the public, are indebted to Messrs. Brand, the inventors, for a boon of the utmost value in the very class of diseases most fraught with trouble and anxiety.

ARTHUR W. HARE,
M.B.C.M., M.R.C.S., F.R.C.S.E., F.R.S.E.

Formerly Prof. of Surg. Owens Coll., and Examiner and Professor in the Victoria University, etc., etc.

BRAND & CO., LONDON, ENG.

...Styra-phenol...

Is approved by the Medical Faculty as presenting a dressing entirely free from grease in any form.

It opens up a new era in treating Ulcers, Sores, Wounds, Burns, and various forms of Skin Diseases, as IT DESTROYS MICRCBES WITH CERTAINTY.

Its marked anodynous effect is a great boon.

.....

This preparation may be secured by Ox Asper Formula, or under name.....

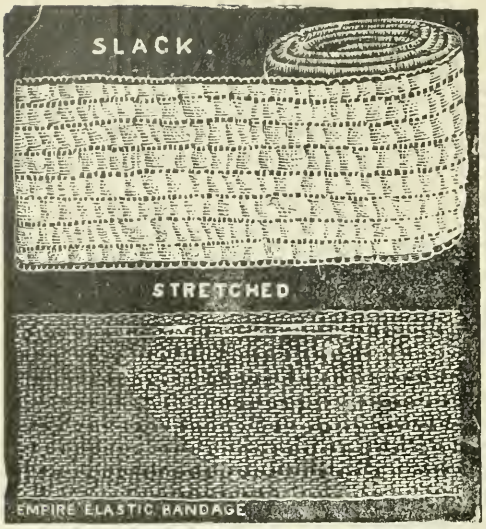
"STYRAPHENOL."

Evans & Sons, Limited,

. . Wholesale Druggists . .

MONTREAL.

Wholesale Agents for Canada.



THE EMPIRE ELASTIC BANDAGE.

SPECIALLY ADAPTED FOR VARICOSE VEINS.

We invite the attention of the Medical and Surgical Profession to the various merits combined in our Bandages:

1st. ITS POROSITY—the greatest in the "Empire." It never causes itching, rash or ulceration under the bandage.

2nd. ITS ELASTICITY, which will enable the surgeon or nurse to put it on at any required tension, and which will follow a swelling up and down, as the case may be, a feature unknown to any other bandage.

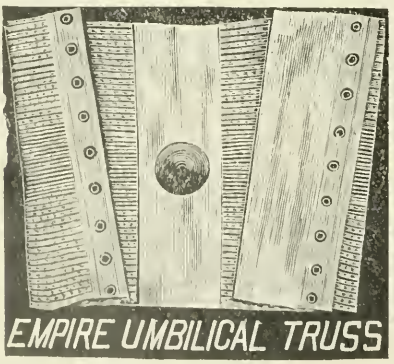
3rd. ITS ABSORBENT PROPERTIES—greatest in the "Empire."

4th. ITS EASY APPLICATION to any part of the body, not being necessary to fold over, as with other bandages, as it follows itself with equal uniformity around any part of the abdomen.

5th. ITS SELF-HOLDING QUALITIES. No bother with pins, needles and thread, or string, so tiresome to surgeons, as simply tucking the end under the last fold insures its permanent stay until its removal for purposes of cleanliness.

6th. The only bandage that is SUPERIOR TO THE ELASTIC STOCKING for varicose veins.

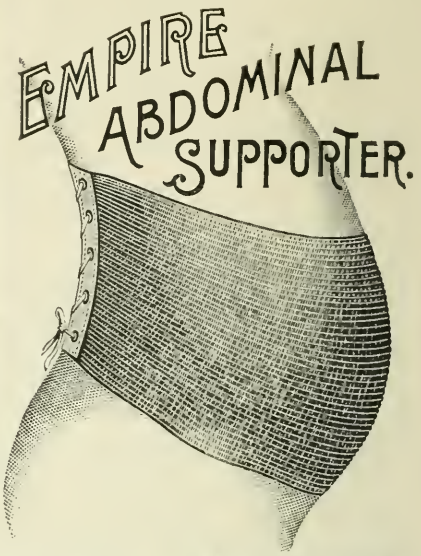
Send $1 for 3 in. by 5 yd. Bandage on approval.



As an Abdominal Supporter with Button Inserted at the Navel.

Is made of the same material, and possesses the same merits as the Empire Elastic Bandage and Abdominal Supporters, and is pronounced by all who have seen it to be the **Best in the World.** All of our goods are sent free by mail upon receipt of price, and money refunded if not satisfactory.

Infants, $1.25. Children, $2.50. Adults, $4.00.



THE EMPIRE ABDOMINAL SUPPORTER

Is Superior to All Others for the Following Reasons:

1st. It adapts itself to every movement of the body, giving strong and even support.

2nd. It produces warmth without irritation or sweating. It is perfectly ventilated.

3rd. In pregnancy, corpulency, tumors, or other cases of abdomen, it supports weight of body from the backbone, relieving the sinews of their overwork.

4th. Its easy appliance (lace, and drawn on over head or feet).

5th. It is cheap, durable. It can be washed when soiled, proper care being taken to cleanse it in lukewarm water and dry in the shade.

☞ In ordering, give the measure of the abdomen.

PRICES:

Eight Inches Wide, $2.50.

Eleven Inches Wide, $3.00.

All Silk, $10.00.

Twelve Inches Wide, double rubber, $4.00.

MANUFACTURED BY

The Empire Manufacturing Co.

47 SPRING ST.

LOCKPORT, N.Y., U.S.A.

JOHNSON & JOHNSON'S

ASEPTIC DRESSINGS

BI-STERILIZED

ARE PREPARED IN ASEPTIC LABORATORIES BY OPERATIVES SKILLED IN ASEPTIC WORK UNDER THE SUPERVISION OF GRADUATE SURGICAL NURSES. THEY ARE READY FOR USE WITHOUT OTHER PREPARATION.

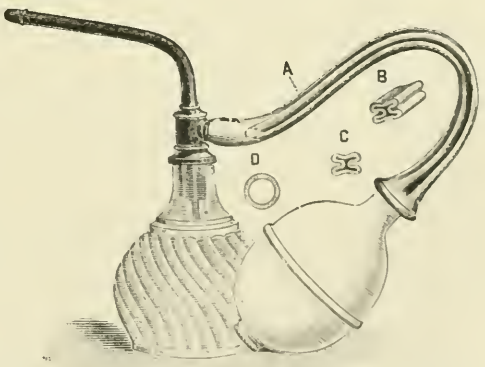
In the reliability of a dressing is bound up the life of the patient and the reputation of the surgeon.

SPECIFY **Johnson & Johnson.**

Write for Copy of "Asepsis Secundum Artem."

GILMOUR BROS. & CO., Sole Agents, - Montreal.

We invite your attention to our **Alpha Atomizers.** Note the tube in its different views, A B C D.



This tube is simply an air reservoir into which the bulb empties itself. By gradually collapsing it forces the air forward, the full supply of air not being entirely exhausted before the bulb again fills the tubes.

WE CLAIM that our ALPHA ATOMIZERS produce an absolutely continuous spray with less labor to the hand than any other single bulb atomizer upon the market. Examine the cut and you will see how simple yet effective it should be.

For Sale by the Drug Trade, or

ALPHA RUBBER CO., Limited,

Illustrated Catalogue on Application. Montreal.

ABBEY'S EFFERVESCENT SALT.

A pleasant effervescent aperient, taking the place of nauseating mineral waters. Recognized and prescribed by eminent members of the profession in Great Britain and Europe.

THE ABBEY EFFERVESCENT SALT CO.

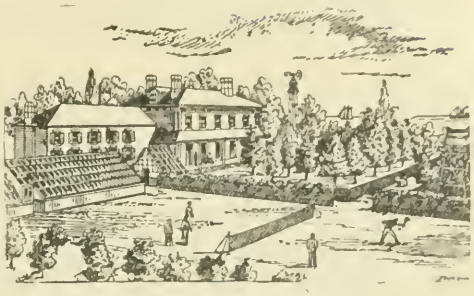
LIMITED

592 CRAIG STREET

MONTREAL

Lakehurst Sanitarium

Oakville, Ont.



THE attention of the Medical Profession is respectfully drawn to the uniform success attending the treatment of . . . . . ,

Alcoholism and Morphine Addiction

....at Oakville.

A prominent medical man in Toronto has, within the last few weeks, paid a glowing tribute to its efficacy in the case of one of his patients who had long since lost susceptibility to the ordinary form of treatment employed, and whose life seemed to hang in the balance. Many came to Oakville in the last stages of the malady, yet of these but two cases in four years have proved to be beyond reach of our treatment—a record well deserving thoughtful consideration of the profession.

For Terms Apply

TORONTO OFFICE, 54 King Street East,

or, THE MEDICAL SUPERINTENDENT, Oakville.

"the active principle."

Drugs are valuable because of their physical or chemical influence upon the tissues of the body.

Foods are valuable because they become part and parcel of every tissue.

It is natural to look for an active principle in the former.

It is useless to look for an active principle in the latter.

Five grains of the active principle of a loaf of bread could never supply the material for building up tissue equal to that furnished by an entire loaf.

Cod-Liver Oil is largely a fat-producing food, possessing special and peculiar advantages distinct from all other foods.

Scott's Emulsion

of Cod-Liver Oil, with the hypophosphites of lime and soda, contains

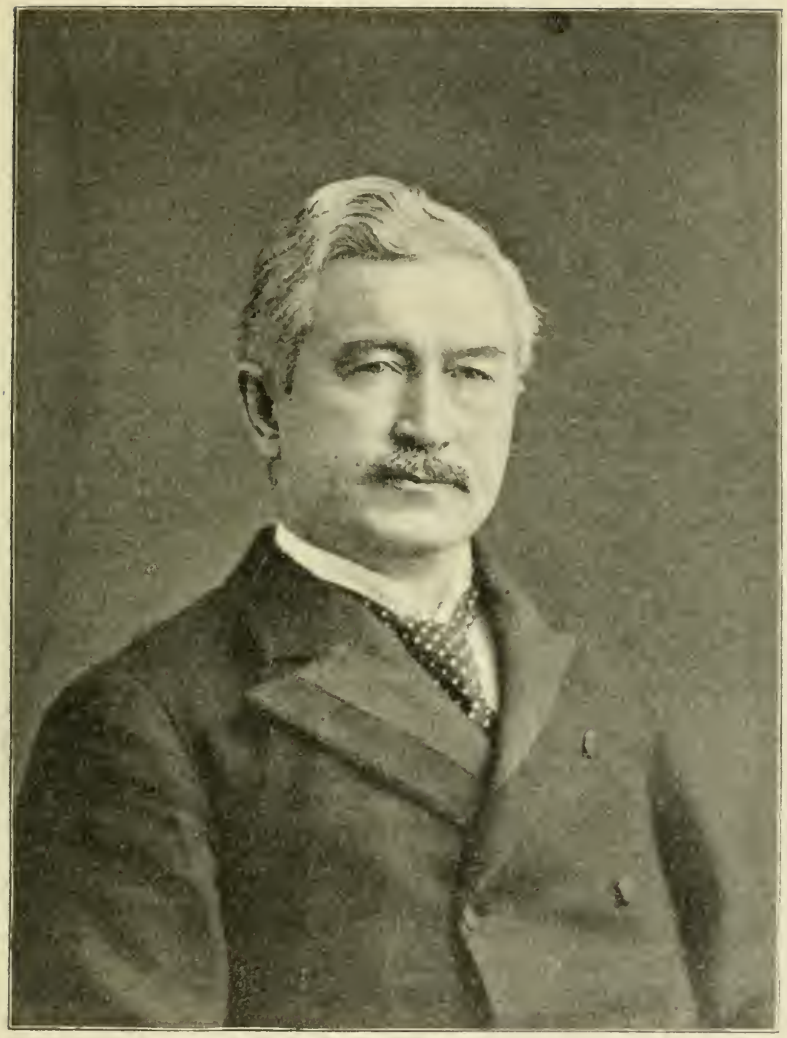
THE WHOLE OIL.

1. The fat of Cod-Liver Oil is valuable. 2. The alkaloids of Cod-Liver Oil are valuable. The first is not Cod-Liver Oil; neither is the second—each is a part only of the whole.

1. Preparations of the alkaloids may be made. 2. Other oils or fats may be substituted. But neither can take the place of the whole Cod-Liver Oil. The fat of this oil differs from all other fats. The reputation of Cod-Liver Oil as a curative agent, established for centuries, rests upon the administration of the whole oil.

50 Cents and $1.00.

Scott & Bowne, Manufacturing Chemists, NEW YORK.



T. G. RODDICK, M.D., M.P.,

Professor of Surgery, McGill University, Montreal.

THE MONTREAL MEETING

OF

The British Medical Association.

OPENING ADDRESS

BY T. G. RODDICK, M.D., M.P., President,

Professor of Surgery, McGill University.

You have been welcomed to the Dominion of Canada by the Noble Earl who is the worthy representative of our beloved Queen; you have been welcomed to the Province of Quebec, to which this city belongs, by our eloquent and justly-esteemed Lieutenant Governor: the Chief Magistrate of our city has given you "*Caed mille failthe*" in a manner in which only an Irishman with such a great sympathetic heart as he possesses can give; and now I rise to welcome you on behalf of the medical profession in Canada, and to thank you for the honor conferred on this city and country by your presence here to-day. Would that I could find suitable language in which to thank you also for the high honor you have done me in electing me to preside at this great meeting of the British Medical Association, an honor which is appreciated none the less by the consciousness that it is not a personal matter, but a compliment to Canadian medicine.

This meeting of the British Medical Association in Canada is an event which will serve still more to impress upon the memory of our people the year 1897, the year of the Diamond Jubilee of our beloved Sovereign, Queen Victoria. In no part of her vast Empire—not even in its very heart—did her subjects celebrate the great event with more enthusiastic loyalty and devotion than in Canada, especially in this province, the home of the French-Canadians. We Canadians of both tongues love and honor our Queen. Long may she live! Deeply, too, have we appreciated here the splendid reception accorded in the old home to our Premier, the Right Hon. Sir Wilfrid Laurier, whose distinguished bearing and grace of manner eminently fitted him for the important part it was his peculiar privilege to play in the magnificent ceremonies of the Jubilee. A French-Canadian, Sir Wilfrid's presence in England as the chosen representative of the Dominion was an object lesson to the Empire and to the world in the harmony existing between the two nationalities which comprise the Canadian people.

And here let me express on behalf of every representative from the British Isles, and on behalf of every Canadian present, the genuine pleasure we feel in having among us on this memorable occasion so many of

our brethren from the United States. This only proves the cosmopolitan character of our profession; this is only another recognition of the unity of medicine. Legislators may squabble, the air may be filled with wild alarms, and war may appear imminent day by day, but our relations are not disturbed in the slightest degree—our interests are common—we are kinsmen in science; we go forward hand in hand, irrespective of race or creed or color, having one intent only; the advancement of our noble profession, and through that the amelioration of the ills of mankind.

It is my privilege also to welcome the representative of another Republic, La Belle France, to whose gifted men of science our profession is so greatly indebted. This gentleman, who bears the credentials of his Government, and officially represents the great nation of which he is so bright an ornament, is known far and wide as the Professor of Physiology in the University of France, Dr. Charles Richet. In coming to Canada it cannot be said, nor will he feel, that he comes to a foreign country, for in the Province of Quebec he will find another France, with a delightful mingling of the old and the new: his own beautiful language spoken with all the grace and purity of the old *régime*.

But we are further honored by the presence among us to-day of the most illustrious surgeon of our generation, Lord Lister, who stands for the rise and zenith of modern surgery. It has been well and truly said that as long as surgery is scientifically discussed Lord Lister's name cannot fail to be mentioned. We have only to compare the surgery of the time before 1873 with the surgery as practised to-day to appreciate all that he has done for the science. Can it be for a moment questioned that Lord Lister has made operative proceedings possible which only twenty-five years ago would have been considered criminal? Undoubtedly, the most powerful agency in the development of surgery in this century has been the introduction of the antiseptic and aseptic methods of wound treatment which he initiated. It is due to his efforts that surgical wards have been freed from pyæmia, and the mortality of lying-in hospitals reduced to the limits of normal parturition. For the past twenty years honors many and great have been showered upon him. Oxford, Cambridge, Edinburgh, Glasgow, Dublin, Toronto, and now McGill, vied with one another in hastening to do him homage. Our Sovereign in conferring upon him the richly deserved distinctions which he bears with such gracious dignity only gives expression to the general feeling of his countrymen throughout the Empire and his admirers the world over. We are glad, I say, to have him with us to-day; his presence is an intellectual stimulus and an energizing force in our deliberations.

It is, I understand, an unwritten law of the Association that the President shall not in his address encroach upon the topics which belong by right and usage to the readers of the main addresses and to the presidents of the various sections. I have observed that the majority of my predecessors have contented themselves with discoursing on objects and circumstances of local interest; they describe the town or city in which the meeting is held, or perhaps they discuss questions of a public character. In the absence of an address on public medicine, others have taken that for their theme. It has been my unhappy lot to select and

consider subjects only to find in quick succession that they had already been appropriated, either by the Association Journal, in describing so fully Montreal and its surroundings, or by the editors of the Official Guide or Souvenir, who have given a very comprehensive description of Canada, or by some of the gentlemen who preside over the sections, who, I have been led to understand, purpose discussing questions of medical education. I fear, therefore, that what I have to say this afternoon will fall far short of the brilliant presidential addresses which members of this Association have been accustomed to in other years. Indeed when I look at the long roll of eminent men who have been my predecessors in this high office—men oftentimes distinguished for their literary gifts as well as for their exalted position in the medical world—I confess that I marvel at my temerity in accepting so great a responsibility. In speaking of my predecessors allow me especially to refer to the retiring President, Dr. Henry Barnes, whose courteous and kindly manners, together with his sterling ability, makes us all glad to know that his election as a Vice-President for life insures his continued official and active connection with the Association. Here might I also be permitted to say how greatly I appreciated the many kindnesses and courtesies extended to me by the President (Dr. Saundby) and members of the Council when in London last winter, making the initial arrangements for this meeting.

With respect to other addresses, which it is customary to deliver on these occasions, medicine will be dealt with by one whose reputation is now world-wide—by our Osler—whose professional education was in great part received in this city, and who, I am happy to say, is still a Canadian. How he has been able to escape the alien law is a puzzle to many; but he has really only been borrowed for a time; he is merely passing through the United States in bond. We are only waiting until we can find a place large enough to hold him, when we shall coax him back. Sorry am I that his old colleagues in his own department of medicine, Howard and Ross and Macdonnell, are not here to share with us the genuine pleasure we experience in finding him in the position which he occupies to-day. One of these, the late lamented Howard, had much to do with moulding his career and setting him to the task which he has so ably accomplished.

You will hear addresses in Surgery and Public Medicine delivered by gentlemen who have devoted their lives to their special subjects.

Before proceeding further, however, allow me, for the benefit of those who may not be acquainted with the work of the British Medical Association, to give in as few words as possible a general idea of its organization.

THE BRITISH MEDICAL ASSOCIATION.

When, in 1832, Sir Charles Hastings, of Worcester, communicated to a few of his personal friends the idea he had conceived of a medical association which should bring the whole provincial profession of England into a common brotherhood, it may be safely affirmed that he did not dream that he was laying the foundation of an association which would ultimately not only embrace the whole of the British Isles, but extend to that

Greater Britain beyond the seas, and become an association of imperial magnitude and of imperial importance and significance. I have no hesitation in expressing my belief that the British Medical Association will be an important factor in bringing to a successful issue that great scheme of Imperial Federation which now exercises the minds, and, let me add, the hearts, of the leading statesmen of the Empire. Sir Charles Hastings' aim was to bring down into professional union with town, county with county; now it has become the aim of the Society he called into being to add State to State—and may I not say continent to continent?—until all the nations and peoples who live under the British flag are brought within the beneficent influence of the Association.

With respect to the objects of the Association, as set forth on its foundation, they may briefly be stated to be:

1st. The collection of speculative and practical information through essays, hospital reports, infirmaries, dispensaries, or private practice.

2nd. Increase of knowledge of the medical topography of England through statistical, meteorological, geological, and botanical inquiries: the investigation of the modification of endemic and epidemic diseases in different situations and at various periods, so as to trace, as far as the recent state of the art would permit, their connection with peculiarities of soil and climate or with the localities, habits, and occupations of the people.

3rd. The advancement of medico-legal science through succinct reports of cases occurring in courts of judicature.

4th. The maintenance of the honor and respectability of the profession generally in the provinces by promoting friendly intercourse and free communication of its members, and by establishing among them the harmony and good feeling which ought ever to characterize a liberal profession.

During its earliest years the movements and proceedings of the associations were quiet and unostentatious, the meetings simple in their arrangements; but it was not long before medical societies began to join the newer body, and towns in all parts of the kingdom soon came to regard it as an honor to entertain the Association. Gradually the best men of each district enrolled their names, and the membership increased so greatly that subdivisions into branches became a necessity. Each branch, with its own ordinary and annual meetings, was practically a replica of the parent society, possessing its own president, vice-president, secretary, treasurer, council, and by-laws, subject to the approval of the Council of the Association, to which, besides, each branch sent representatives according to its numerical strength. In 1837, five years after the foundation of the Association, there were three of these branches formed, namely, the East Anglian, the Bath and Bristol, and the Lancashire and Cheshire. By the end of 1878 the Association had spread over the whole United Kingdom, the total number of branches at that date being 30—one of the 30, it is interesting to note, being Jamaica, the first Colonial branch to be formed. It was organized in 1878. Two years later we find that Australia appears for the first time, contributing three branches to the Association. Since then 36 more branches have been added, making a grand

total of 65, with a collective membership of nearly 17,000. Of the branches 27 are Indian and Colonial. Doubtless before long those portions of Africa which are now becoming rapidly civilized will also add their quota, so that it is possible that within the lifetime of all present the British Medical Association will be represented wherever the British flag flies. As Nova Scotia is always to the fore in matters intellectual, it is not surprising that the first Canadian branch of the Association should have been formed in Halifax. It was started in 1887, four years ahead of Montreal, Toronto, Manitoba, and British Columbia. Canada has now seven branches, the Ottawa and Quebec branches having been formed within the last year. The formation of the Manitoba, Toronto, and Montreal branches was the immediate result of the visit to this country of Mr. Ernest Hart. In 1891, Mr. Hart, who has been editor of the *British Medical Journal* since 1867, and who has been well and truly described as the pivot on which the machinery of the whole Association revolves, passed through Canada in that year and addressed *en route* the members of the profession in Winnipeg, Toronto, and Montreal. Of the Manitoba branch, which began with 25 members, Dr. Ferguson was nominated as president, and Drs. Thornton and Lamont as vice-presidents. In Toronto the branch also began with 25 members, Dr. Macallum being nominated president, and Dr. Thistle honorary secretary. In Montreal the meeting was largely representative in spite of the short notice given, and 26 members of the profession at once signed applications for membership. The officers nominated were: President, Dr. (now Sir William) Hingston; first vice-president, the late Dr. George Ross; second vice-president, Dr. James Perrigo The members of the Council were: Drs. Roddick, F. W. Campbell, and Geo. Wilkins. In the course of a very happy speech made on this occasion by Mr. Hart he remarked that he looked forward to the time when the Canadian membership would be large enough to invite the Association to hold a meeting in Canada; and he hoped that the first meeting held outside the limits of the British Isles might be held in this country. Little did we think at the time that Mr. Hart's hopes would be so quickly realized. But the idea has ever been present with us, and those who subsequently attended meetings of the British Medical Association in England have lost no opportunity of advocating the claims of Canada, and especially of this the metropolitan city of Canada, as a place of meeting for the Association.

One of the secrets of success of the British Medical Association is that it makes no distinction in the treatment of its members Colonial members have all the privileges of the British members, and are always warmly welcomed at the headquarters in the Strand, and at the annual meetings. The Association has a large reserve fund of £40,000 sterling, which is the joint property of the members, to be used for public or professional purposes, and any suitable applications for grants for medical research, whether from British or Colonial members, always receive attention.

A gentleman to whom the Association is greatly indebted is Mr. Francis Fowke, who was appointed Secretary and General Manager in 1872. At that time the Association was in rather a precarious condition financially,

owing to its deficient organization; but shortly after Mr. Fowke took up the reins of office matters were found to improve. About the time he was appointed the subscriptions amounted to £4,677. Ten years later they had nearly doubled, the amount being £9,147; and in 1891 they had reached the very respectable sum of £14,759. It is interesting to note how closely the advertisements in the *Journal* kept pace with the increase in membership. In 1871 the amount received for advertisements was £1,992; in 1881, £6,089, and in 1891, £14,568. The head office, which had been in Birmingham, was moved to London in 1872, where, after two removals, the present commodious premises in the Strand were taken. In 1879 the Association began the printing as well as the publishing of its *Journal*. The library, which now contains 10,000 volumes, and which includes nearly every modern medical work of note, and many valuable books of reference, has developed in that time. That the British Medical Association is the largest and most influential guild in the world cannot be questioned. Moreover, the good it accomplishes increases from year to year, and more than keeps pace with the expansion of the Association. Imagine the mighty power of the collective action of 17,000 earnest men pitted against false dogmas and ever battling for the truth! It is not, however, by greatness of numbers that the association will be judged—it is by the diversity and quality of results. It is impossible to imagine any combination of circumstances which would render this great Association any less necessary or useful than it is to-day. It will undoubtedly continue to grow in numbers, to increase in importance, and to be ever more and more an influence making for the amelioration and elevation of mankind.

The Canadian people, and especially the citizens of Montreal, are highly flattered and gratified that Canada should be the first country without the United Kingdom to be honored by a meeting of the British Medical Association: and while the hope that it will not be long before the honor is repeated, our people are not insensible to the claims of other portions of the Empire, more especially the great island continent of the antipodes, Australia. Either Sydney or Melbourne would be a fit meeting place for such an imperial organization as this, and should the next meeting which is held outside the British Isles be held under the Southern Cross our hospitable Australian kinsmen may count on a large contingent from the Dominion of Canada.

CLIMATIC CONDITIONS.

As it may be presumed that to the majority of those present here to-day Canada is almost an unknown country, I have thought that among one or two other subjects a few remarks on the atmospheric conditions and health resorts of the Dominion would not be without interest.

The best way to understand the atmospheric conditions of a country is first to understand its physical features. The physical features of Canada are very remarkable. Broadly speaking the country is separable by climatic and physical conditions into three great regions, the Eastern, Central and Western Regions, which approximately run north and south in the general trend of the continent. The Eastern Region, which in-

cludes the older provinces of the Dominion, Ontario, Quebec, Nova Scotia, New Brunswick, and Prince Edward Island, besides the great fur territory stretching far to the east and northeast of James' Bay, extends from the Atlantic to Lake Superior and the chain of Great Lakes running in a northerly direction from Lake Superior to the Arctic Ocean. Between this great chain of lakes and the eastern base of the Rocky Mountains is the immense interior continental plain which constitutes the Central Region of Canada, its southern part consisting of open prairie, its northern part of forest lands. The third part of the division, the Western Region, is naturally very well defined, consisting of the wide and wild mountainous border of the continent on the Pacific side—the Rocky, Selkirk, and Gold Ranges, which form the great Cordilleran belt, whose average width in Canada is 400 miles.

Eastern Canada, our first and largest region, is geologically of very ancient origin. Here geologists have placed the nucleus of the continent —the broad belt of crystalline rock of great antiquity called the Laurentian Plateau This region is remarkable for its immense number of lakes, large and small, and for its irregular and winding rivers with numerous rapids and falls. Between the Laurentian Plateau on the north and the Appalachian mountain system on the south lies the great Valley of the River St. Lawrence. The basin of this majestic river covers 530,000 square miles, of which 460,000 are in Canada. Above the city of Quebec, the base of the Laurentian highlands and the ridges of the Appalachian system diverge, and the mighty river flows through an extensive low country of notable fertility, in earlier days the great granary of Canada.

It may be added *en passant* that Mount Royal, which gives such distinction and character to our city, represents the basal remnants of a volcanic vent of great antiquity. From its picturesque summit may be seen similar abrupt elevations far off towards east and south—Montarville, Belœil or St. Hilaire, Mt. Rougemont, with Mt. Yamaska behind it, Mt. Shefford, and the conical Mt. Johnson or Monnoir. The Adirondacks are visible in the distance to the south-west, and the Green Mountains to the south-east.

Included in the Eastern Region is one of the most remarkable geographical features of Canada—the great fresh-water lakes or inland seas, Superior, Huron, Erie, and Ontario, which form the perennial reservoirs of the St. Lawrence. Together with Michigan, which is wholly in the United States, they have an aggregate area of 94,750 square miles, an area larger than that of Great Britain. They stand at four distinct levels above the sea—Ontario 247 feet, Erie 573, Huron 581, and Superior 602. The Niagara Falls, the greatest and most impressive of the natural wonders of our continent, are the direct result of the great height of Lake Erie above Lake Ontario, the river connecting the lakes being only a few miles long. Besides the St. Lawrence, Eastern Canada has several other great rivers, notably the Ottawa, which has a course of 1,800 miles and a basin of nearly 1,000,000 square miles, the St. Maurice, the Saguenay, and the St. John, the glory of New Brunswick, which, together with the Atlantic Slope, has a basin of 50,214 square miles. The Central and Western Regions also have their abundant share of large and small lakes

and great rivers, an account of which would fill reams of paper. It should be noted that the Canadian rivers and lakes collectively cover an area of 130,000 square miles, and contain one-half the fresh water on the globe.

I draw special attention to this series of vast lakes and rivers because it exerts an immense and beneficent influence on the climate of Canada. It preserves the mean temperature while the land experiences the extremes. In summer the water is cooler and in winter warmer than the land conditions, which tend to modify the differences and to favor uniformity of climate. Without these waters, too, we should have vast regions of comparatively little value, as in Africa, Asia, and in the United States west of the Mississippi River, where large tracts of land far from water are nothing more than arid wastes. Our climate is more uniform than that of Europe: the meteorological differences are produced by position alone, but Europe has a higher mean temperature, and the extremes there are not so marked or so wide apart as in Canada. Owing to the great area of Canada, extending over 20° of latitude, or from the latitude of Constantinople to that of North Cape in Norway, the range of temperature is naturally very wide. The southern boundary stretches over fully 4,000 miles, along which line we find that Southern Ontario has the latitude of Central Italy, Nova Scotia that of Northern Italy, Manitoba and Vancouver that of Central Germany. Speaking generally, the Canadian summer may be stated at 60° F. to 70° F.

From its vast and varied extent, Canada may be said to be the possessor of several climates. Taking Solly's classification as to position, we have in Canada all the three land climates, the low, the medium, and the high. The first has an elevation up to 2,500 feet, the second up to 4,500, and the third from 4,500 upwards. As to temperature and humidity, Canada comes under the category of "cold, moderate and dry."

HEALTH RESORTS.

In the eastern region of the Dominion there are at least two localities which have been proved to possess many of the qualities which constitute a climate for convalescents from fevers and other depressing diseases, and also for consumption in the incipient stage. I refer to the region in the Province of Quebec among the Laurentians north of this city, of which the village of Ste. Agathe is the centre: the other being the Muskoka district, in Ontario.

The first has been called the Adirondacks of Canada, having many of the features, physical and climatic, of that now celebrated plateau situated in the north-eastern part of New York State, and stretching from the Mohawk Valley in the south 150 miles north, almost to the frontier line. The average elevation of the two regions is about the same, being from 1,600 to 1,800 feet. The immense pine forests, together with the moderate temperature, constitute the chief characteristic of the Canadian district, from the medical point of view. No very systematic meteorological observations have yet been taken of the Ste. Agathe region, but the indications will probably prove to be very similar to those of the

American resort. It is in contemplation to erect a Sanitarium on Trembling Mountain, overlooking the village of Ste. Agathe, which will doubtless in time rival the Adirondack Cottage Sanitarium near Saranac Lake Village, which has proved such a marked success under the able management of Dr. E. L. Trudeau. The elevation of the Sanitarium will be 2,500 feet, thus having an altitude of nearly 700 feet greater than the establishment at Saranac. It is the intention of the Quebec Government to set apart a sufficient portion of the Crown Lands to form a natural park in that part of the Province. It will be called the Trembling Mountain Park, and will cover an area of 100,000 acres of land, in which are several beautiful lakes. Within the boundaries of this park the Sanitarium will be constructed. There is, therefore, no reason to doubt that we will shortly have within our own lines a health resort possessing all the advantages of the Adirondacks region, and capable of affecting for good the same class of patients now so decidedly benefited by a residence in those mountains.

One hundred miles north of Toronto, in the highlands of Ontario, is the Muskoka Lake region, an area of about 10,000 square miles, perhaps the most picturesque portion of the whole province. Within this district, which has a mean altitude above the sea of about 800 feet (200 feet above Lake Huron), there are nearly a thousand lakes and ponds, connected by innumerable streams. The chief lakes are Muskoka, Rosseau and Joseph. These contain about 400 islands. It is a region abounding in pine forests; the climate is dry and the air pure and invigorating. The Muskoka region has been found undoubtedly to possess remarkable advantages for those with phthisical tendencies. The death-rate from phthisis in this section of Ontario is proved to be less than one-tenth the rate which obtains in other parts of the province. At Gravenhurst the Muskoka Cottage Sanitarium for the cure of incipient phthisis has recently been founded, under the best auspices, with accommodation for forty patients. The present Sanitarium consists of a large and well-planned main building, surrounded within easy distance by a number of small cottages. The grounds, which embrace seventy-five acres, are situated on Lake Muskoka. Pine forests and rocky ridges protect the buildings on the north and west sides, whence come the colder winds in winter. Like the Adirondacks Sanitarium, the intention is to occupy it all the year round. The progress of this institution, at present in the experimental stage, will be watched with much interest.

In the Central Region of Canada, that section of the Northwest Territories known as Southern Alberta—the home of the cowboy—has much to recommend it as a health resort. This strip of prairie and hill country is bounded on the north by the Canadian Pacific Railway, and on the south by the International boundary line: its eastern boundary extends as far as Medicine Hat; its western boundary to the summit line of the Rockies and British Columbia, comprising in all an area of about 20,000 square miles. The plain here has an elevation above sea level of 2,700 feet, which gradually increases up to the entrance of the Crow's Nest Pass, where the elevation is 4,500 feet. Calgary, the capital of Alberta, is itself 3,500 feet above sea-level. With this gradual incline from a low

to a high level altitude, the patient can choose the locality which suits his particular case. In a long experience Kennedy knew of only two cases of phthisis originating in that country—one of acute tuberculosis with a hereditary taint, which proved fatal: the other, of the ordinary type, recovered without leaving the place. He claims for the climate of Southern Alberta a dry, aseptic atmosphere and a dry soil, the greatest possible number of sunshiny days (90 per cent.), with cool nights. Patients can live there all the year round, and with the exception of an occasional snowstorm, which may cover the prairie to a varying depth, nothing need interfere with their practically living in the saddle. The so-called Chinook wind has a remarkable influence over all this western section of Canada. It is a warm wind which blows with varying intensity from west to southwest. McCaul, who describes it very graphically, speaks of its approach being heralded by the massing of dark clouds above the mountain tops, and a distinct wailing and rumbling from the passes and gorges. Its effect in winter is little short of miraculous. When the real Chinook blows the temperature often rises in a few hours from 20° below to 40° above zero. The snow, which in the morning may have been a foot deep, disappears, and before night everything is dripping. But in the space of a single day all the water is lapped up by the thirsty wind, and the prairie is so dry that a horse's hoof hardly makes an impression.

The cases which have been especially benefited by Alberta's climate are pulmonary tuberculosis in the earliest stage, although neurasthenics and anæmic women are likewise favorably affected in a marked degree. It is well known that delicate lads sent from the British Isles to this section of the Northwest to work on the cattle ranches become in a year or two healthy and vigorous men, and are scarcely recognized on their return.

Still further west, and nearly midway between Calgary and the Pacific Coast, is the beautiful Valley of Kamloops, another all-the-year-round resort which has much to commend it to those suffering from many forms of tubercular disease. This picturesque valley, which lies between the Rocky Mountains and the Cascade Range, has a low altitude climate of 1,100 feet, but is exceedingly dry, showing an annual rainfall of only 11.05 inches, with an average of about 75 rainy days in the year. The rain soon disappears, the soil being light and gravelly. In this region we have an illustration of the local variability of climate recently pointed out by Bryce, who, in referring to the two not very distant localities of Vancouver and Kamloops, showed that whereas the former has an annual rainfall of 35 inches, the latter records but 11 inches and a decimal. The mean annual temperature of the Valley of Kamloops is 46.03 F., the annual range being only 22.8. The tuberculosis patients who appear to be most benefited by a residence in Kamloops are those in whom there is a tendency to chronic congestion. Cases of bronchitis are likewise said to do well there. The climate can also be recommended for consumptives where cardiac disease exists as a complication.

That Canada is an exceptionally healthy country is the general testimony of the army and navy surgeons who have been stationed in Canada with the different regiments from the time of the conquest to the present

day. Crawford, who was attached to one of the regiments stationed in Montreal many years ago, and who subsequently left the army and practised in this city, published elaborate and carefully collected statistics to prove that few portions of the British Empire have a climate equal to that of Canada. In fact, his statistics prove conclusively that out of every 1,000 of the troops stationed at the various garrisons throughout the Empire the percentage constantly ineffective from sickness was smaller in this country by 7 per cent. than at Gibraltar, which was then taken as the type. I think it can be satisfactorily proved that Canada is expressly fitted to develop a hardy race capable of great endurance. The races of the British Isles and the French race have certainly not degenerated here. Hingston proved this very conclusively some years ago by observations made upon the medical students attending the various schools in this city. He found that the lumbar strength of the British Canadian of the third generation exceeded by 20 lbs. that of the recently arrived English and Scotch students. But the French-Canadian of the tenth generation did better than all by nearly 30 lbs. Not only has the French-Canadian increased in strength, but also in height and weight over the original Normandy stock.

Has the intellectual improvement in our people kept pace with the physical? We are a modest people, but I think we can say it has. We have a very respectable literature of our own: but the best intellect of the country is as yet absorbed in the practical affairs of life, and has too seldom found expression in art and literature. It is not very long since a distinguished American litterateur, Charles Dudley Warner, gravely attributed what he called the literary inactivity of Canada to the coldness of the climate. He said, in short, that the cold benumbed our intellectual faculties, and we had to spend so much of our energy in trying to keep warm that none was left for any other purpose. It must be admitted that if we measure the intellectual capacity of our people by the number of books produced in Canada the result is not all we might desire; but the climate is not to blame. Especially it is not the cold, for the winter is the season devoted pre-eminently to intellectual effort and intellectual amusements. If Mr. Warner had said that the heat of our summer was an unfavorable factor in our intellectual life he would not have shot quite so wide of the mark: he would not have been right, but he would not have been quite so wrong. The very vicissitudes of our climate, by training the system to endure severe physical conditions, must react favorably upon the mental attitude.

CANADIAN SPAS.

We have in Canada several mineral springs of undoubted therapeutic value, and they are pretty generally distributed all over the Dominion, although differing materially in temperature and composition. The best known Canadian spas are Caledonia, the St. Leon and the Plantagenet Springs, in the Province of Quebec, and the Banff Springs in Alberta. Other springs in the Province of Quebec are the Abenakis and the Caxton. Besides these there are at least three or four artesian wells or

springs. Of these the chief are the Laurentian Spring in the east end of this city (a mild alkaline water with sodium bicarbonate as its predominating ingredient,, and the Radnor, a well of some considerable repute situated in the County of Champlain. This was discovered a very few years ago when boring for water to supply the workpeople engaged at the well known Radnor Forges. It has been likened to the German Seltzer, many of the properties being alike. It bids fair to become a rival in time of the celebrated Apollinaris water, to which it is preferred by many. The well is over 400 feet in depth. In the Province of Ontario the chief springs are the Winchester and the Preston, and those in the town of St. Catharines, near Niagara Falls. The best known and the most popular are the Caledonia Springs, situated on the line of the Canadian Pacific Railway about midway between Montreal and Ottawa, and about nine miles from the Ottawa River. They consist of four springs—the gas, the saline, the white sulphur, and the intermitting or Duncan spring. The first three are situated within a distance of three or four rods of each other, and the mouths of the latter two are not more than four feet apart. The intermitting spring is situated about two miles from the others. This is so named because the discharge of gas is not regular, some minutes elapsing between the periods of quiescence and disturbance. The average temperature of these springs is about 46° F. The intermitting spring has the largest percentage of chloride of sodium, and differs from all the others in possessing a greater portion of chlorides of calcium and magnesium. It has also nearly twice the proportion of carbonate of magnesium that the others contain. It has been found that taken judiciously and under advice these waters have a remarkable effect in subacute and chronic rheumatic conditions. People suffering thus are found flocking to Caledonia from all parts of this continent and even South America, especially during the months of July and August. Gouty conditions depending upon liver disturbances also yield very readily to these waters. The waters of St. Leon and Plantagenet are similar in many respects to those just described, and as a rule suit the same class of patients.

All the springs so far mentioned yield cold waters. But Canada also possesses the most famous thermal springs on this continent.

Banff, now a picturesque town magnificently situated in the heart of the Rocky Mountains, yet within the limits of that division of the Northwest Territories known as Alberta, has become one of the noted health resorts, although frequented more on account of its remarkable thermal springs than for its climatic advantages. The town is built on the banks of the Bow and Spray rivers, two large glacier streams, and is surrounded by mountains towering many thousands of feet above the level of the sea. The winter is short, beginning in December and ending in February, and is much milder than in Ontario. Very little rain falls, and the days as a rule are bright and cloudless. Prolonged periods of warm weather are experienced during winter. March and April are variable: May is warm and bright: June is the month in which the greatest rainfall occurs: July, August, September and October are very warm and very dry, with cool nights. At all seasons with the exception perhaps of June the air is dry and notably aseptic. It is positively stated that no

case of malaria or tuberculosis has ever been known to originate at Banff. Independently of the springs, then, Banff has much to recommend it from a climatological standpoint.

The far-famed Thermal Springs of Banff were only discovered some 15 years ago, during the construction of the Canadian Pacific Railway. At its source in the mountain side it has a temperature of 127° F., and the air is charged for some distance around with the steam emitted from the pool to which the water flows. The most recent analysis shows it to contain the following ingredients :—

Calcium sulphate	56.85
Magnesium sulphate	12.39
Calcium carbonate	3.29
Sodium sulphate	15.60
Sodium carbonate	35.73
Silica	traces.
Organic matter	traces.

The waters of Banff have been used with great benefit in rheumatism, gout, sciatica, and glandular affections, in certain forms of skin disease, and especially, it is thought, in tubercular affections of the skin and mucous membrane. Aided by the admirable climatic conditions the waters have also been found to benefit in a marked manner functional diseases of the liver, stomach and kidneys, and tubercular joint affections. In debilitated constitutions from any cause the activity of the skin is noticed to be increased, the heart and vascular system strengthened, and the muscular and nervous systems much improved in tone. Rachitic and delicate children are much benefited by the Thermal Springs. This seems a large order; but the therapeutic effects of these springs have been carefully studied by competent medical men who have been stationed there for some years. The climate doubtless assists materially the action of the waters in very many cases.

I doubt if the Canadian profession sets a sufficiently high value on the therapeutic properties of our own mineral springs. When visiting the Spas of Great Britain and Europe, one is impressed by the caution exercised by patients in the method of using the waters which have been prescribed. There, competent local medical men are always to be found who can give the proper advice regarding the water to be taken for the ailment from which the patient suffers, and the judicious use of baths. Here, unfortunately, in many places no professional advice is available, and the patient consequently does very much as he pleases, or as the hotel proprietor may advise, and in consequence more harm than good constantly follows the use of the waters.

MEDICAL EDUCATION IN CANADA.

The general question of medical education is one of great importance and of unceasing interest, nor is this interest confined to the profession: it is becoming universal. The needs of medical education are fortunate-

ly being more fully realized by those who on account of their wealth and influence are in a position to render that substantial assistance which is so requisite. The time was when every medical school was a purely proprietary concern "run" for the money that was in it. We feel in Canada, and I think I can speak for the profession in the neighboring Republic, that this day is passed, that high-minded philanthropists like the Right Hon. Lord Strathcona and Mount Royal, the late John Henry Molson, the McDonalds, the Drakes, and others with us, and the Johns Hopkins, the Stamfords, the Vanderbilts, the Rockafellers, the Miss Garretts, and others with them are beginning to realize that unendowed instruction in medicine must lead to imperfect results, and that private endowment, in the absence of state aid, has become an absolute necessity to a proper medical training. I am not an advocate for state aid to universities, and I rejoice that the university to which I have the honor to belong is not so dependent, as it might thus be deprived of those gifts of private munificence to which I have just referred. All honor to those far-seeing, open-handed men and women who are giving of their abundance in order to elevate the standard of medical education and by so doing benefit their kind. As Gould very tersely puts it in one of his clever articles: "I think our reliance must be upon private bequests, and these can be secured only as we interest the rich. We must never weary in showing the neglect of the greatest, most palpable, most certain means of doing good. There is a strange fatality in men, an unaccountable inability of seeing the need that lies nearest the good that is dearest. There is more money to-day devoted to astronomy than to the prevention of disease. It is positively wonderful to think that men should be more interested in stars and constellations than in their bodies and their physiological life."

A question which is now-a-days agitating the minds of those especially interested in medical education is the kind of groundwork which is likely to bear the most direct relation to the future studies of the medical student. I think it is now conceded by all that he is placed at a greater advantage who first passes through an arts or science course. I am happy to be able to report that from 15 to 20 per cent. of those who are studying medicine in this country to-day have had a collegiate training in either arts or science. Which of the two should the parent or guardian choose? Had I a son whose instincts were in the direction of medicine, I think I should choose for him the science course. The late Professor Huxley thought it was a most self-evident proposition that the educational training for persons who proposed to enter the medical profession should be largely scientific; not merely or even principally because an acquaintance with the elements of physical and biological science is absolutely essential to the comprehension of human physiology and pathology; but still more because of the value of the discipline afforded by practical work in these departments in the process of observation and experiment, in inductive reasoning and in manipulation.

The subjects in the science curriculum might be specially selected for the future medical student. Of course it may be said in favor of the arts course that many of the subjects such as physics and chemistry constitute

part of the curriculum; but then calculate the loss to the future surgeon of that training of the hand and eye which would lead him up to be a skilled operator; or to the scientific physician whose complicated instruments of precision employed in the diagnosis of disease need some mechanical knowledge for both their use and repair. Besides, the number of those has been increasing in number and complexity with the increase of scientific knowledge.

But can we not make a new departure; can we not urge that a special scientific education be arranged by the universities for those who desire to enter the medical profession? Such a course would embrace elementary Latin and Greek, French and German, physics, chemistry, biology, psychology, elementary mechanics, a practical laboratory course on electricity and drawing. After two years' study, this might entitle the successful candidate to the degree of Licentiate in Science.

Something of this kind has been recently attempted in the University of McGill. By a special arrangement with the Faculty of Arts it is now possible for students to obtain the degree of B.A. along with M.D., C.M., after only six years of study. It has been decided to allow the primary subjects (anatomy, physiology and chemistry) in medicine to count as subjects of the third and fourth years in Arts. It follows, then, that at the end of four years' study a student may obtain his B.A. degree and have two years of his medical course completed. The last two years of study are, of course, devoted to the third and fourth year subjects in medicine. A certificate of Licentiate in Arts will be given along with the professional degree in medicine to those who previous to entrance upon their professional studies proper have completed two years in the Faculty of Arts, and have fully passed the prescribed examinations therein. By this plan also during the first two years of the Arts course the medical student practically completes his studies in physics, chemistry, botany and elementary psychology. This scheme is still in the experimental stage, but there is every reason to believe that it will result satisfactorily. What deters so many from taking a full course in Arts or Science before entering Medicine is the length of time consumed before the doctorate degree is reached, although I hope the time is not far distant when every graduate in Medicine in Canada shall of necessity be also a graduate in Arts or Science. I might state that the standard for the ordinary matriculation examination for entrance to Medicine exacted by all universities and licensing boards in this country is, with one or two exceptions, very high. I doubt if the requirements in this way of the Medical Council of Great Britain are any higher.

Now as to the purely *professional* portion of medicine, I might state that we have in the Dominion of Canada no fewer than 11 medical schools, including one for women only, all having the power of granting degrees, and all connected directly or by affiliation with university bodies. To enumerate them: Beginning with the Atlantic Provinces, we have in Halifax the medical school attached to Dalhousie University, the only medical school in the Maritime Provinces; in this Province there are four schools, Laval in Quebec, Laval in Montreal, McGill and Bishop's in Montreal; in Ontario four schools, namely, the Royal College

of Physicians and Surgeons, Kingston: the University of Toronto Medical Faculty, Trinity Medical College, and the Ontario Women's Medical College, in Toronto; in London, Ontario, the Western University Medical Faculty: and lastly, in Winnipeg, the Manitoba University Faculty of Medicine. All told, we had in Canada during the last winter sessions 286 teachers, including professors, lecturers and demonstrators, and 1,736 students. The tendency for the past two years has been to increase the teaching staff quite out of proportion to the increased number of students. Taking McGill we find that there are in the present year 53 teachers for 388 students, being a proportion of nearly one to eight. Laval, in Montreal, has 36 teachers and 197 students, a still greater proportion. The Toronto School of Medicine had during the past year 41 teachers and 293 students. We find that this proportion compares well with the larger schools in the United States: thus, in 1893, there were in Harvard Medical School 71 teachers to look after 471 students; at the Columbia Medical College in New York, with 661 students, there were 105 teachers (1 to 6); in the University of Pennsylvania the teaching staff in the same year comprised only 84 members with 825 students, being a little over 1 to 10. What does this mean? Ten years ago when McGill had 237 students, a staff of 23 professors and demonstrators was considered sufficient. Why are so many more thought necessary now-a-days? The number of subjects taught has not increased very much. The answer is that the subjects are differently taught, the old-fashioned daily didactic lectures are now given two or three times a week only: although I should be sorry to see them further reduced in number, I believe that so many are absolutely necessary. It is in the dissecting room, the chemical, physiological, therapeutical and pathological laboratories that we see the change. These which before were for the most part only "side shows" are now made to hum with the practical work which is done within them, while demonstrators are moving about busily engaged in examining and instructing.

In clinical teaching also we have made marked advances. A creation of the last few years is the clinical demonstrator, who takes small classes of students into the wards or the out-door department of our hospitals and gives them that "bedside instruction" which is so essential, leaving the clinical professor to deal with the full classes in the lecture or operating room. Thus each student is enabled personally to examine the case, to study the physiognomy of disease, and to make deliberate, thorough and systematic examination. He thus learns to use his special senses and gets into careful habits of observation which, once thoroughly acquired, will be found to contribute largely to future success. With this in view we encourage students to attend the out-patient department of the hospital as early as the second year.

In order to make the clinical instruction more complete and more thorough, chemical and bacteriological laboratories have been added to the pathological departments of our hospitals. Thus it will be seen that laboratory methods everywhere prevail, all with the idea of developing the scientific spirit in students and of cultivating methods of thought with observation.

The question sometimes arises, however, may the student not be getting too much of a good thing? Is it not possible that laboratory teaching may be overdone? Because, as Welsh very truly says, "The student whose knowledge of a subject is derived exclusively from laboratory courses is likely to lose his perspective in details, to acquire only a fragmentary knowledge of the subject, to fail to comprehend the general bearing of observed facts, and not to acquire the general principles and systematic conceptions which are essential. Laboratory work should be accompanied and supplemented by the reading of text-books and by lectures." I am convinced that with us in Canada laboratory work is not overdone, but, on the contrary, in some departments needs and deserves further encouragement. I hope every laboratory teacher in the country realizes that the object of a college is to give a good general education, and not to make experts in various branches. I have long felt myself, however, that the didactic lectures were being unfairly dealt with. There is a feeling abroad that they should be practically elbowed out of sight. I think the didactic lecture has its place in the medical course: and while I quite feel that the old plan of compelling students to listen to five didactic lectures a week in all of the great subjects was a mistake, I still feel that a good lecturer can teach in this way a certain something which cannot be imparted by practical instruction or by recitations. The personal influence of a good lecturer very often makes an impression which nothing else can make; and if such lectures are made also demonstrative, as by the use of diagrams, the lantern, experiments, &c., they must of necessity fill a very important place in the medical course.

Hygiene is at last receiving in this country the attention which its importance demands; all medical schools in Canada have facilities for teaching it. In McGill University the scope of the teaching of hygiene has been vastly extended, thanks to the generous endowment of that department recently by the Chancellor, the Right Hon. Lord Strathcona and Mount Royal. The subject can now be taught in a scientific and, at the same time, eminently practical manner. There will be three teachers associated with the professor himself, viz., the heads of the departments of Practical Chemistry, of Pathology, and of Bacteriology. This is following very much the German system, also adopted by the University of Pennsylvania, the chemical and bacteriological aspects of the subject being really regarded as the most important. An extensive working museum, with sanitary apparatus of every kind, forms part of the scheme, and will doubtless add greatly to the efficiency of the course when it is completed. Should the experiment succeed, you will be rejoiced to hear at no distant date that the other schools in Canada have followed the lead of their elder sister.

I fear I have given you a very imperfect idea of medical education in Canada; and it may be charged against me that I have been partial in my description to my own University; but I assure you that such was furthest from my thoughts. The Medical Faculty of McGill University has the right of seniority and might fairly, I think, be taken as a type of Canadian Medical Schools. Be assured there is no mean spirit of rivalry abroad. We are all working with one object only, the advance-

ment of medicine in Canada. The teaching facilities of some medical schools in this country may be and are actually greater than others, owing to the munificence of citizens, and the school attached to McGill is, I am happy to say, in that position; but although assistance has been rendered in a general way, with two exceptions, the chairs are still unendowed. Yet we have great expectations which we hope will be realized in the near future. Let us hope that our sister universities throughout Canada will be equally fortunate, so that before long we shall be able to report that we are all marching abreast equally equipped.

The facilities for clinical teaching in the larger cities of Canada are admirable. Speaking for the city of Montreal, we have in the five general hospitals, the Hotel Dieu, Montreal General, Notre Dame, Royal Victoria and Western Hospitals, nearly 800 beds. The number of students attending the three medical schools was last session 646; and considering that only about half—those of the third and fourth years—have access to the wards, there will be at least two beds for each student. The number of outdoor patients attending the five hospitals daily would aggregate at least 300, so that there could be no possible cause for complaint regarding both the quantity and quality of clinical material available in this city.

While on the subject of hospitals, I would take this opportunity of saying that the training schools attached to the larger English hospitals are in a very flourishing condition and are found to contribute not a little towards the thoroughness of the practical teaching. It was my intention to have referred at some length to the whole question of Nurses and Nursing, but the limits of this address forbid. I might say, however, while as a profession we feel the absolute necessity for the training school, and thoroughly appreciate the services of the well-trained nurse, both in hospital and in private practice, there is the fear that the supply may exceed the demand. A project is on foot now, however, which may delay, if not actually prevent, such a result. I refer to the recent establishment by that most estimable and charitable woman, the Countess of Aberdeen, of the Victorian Order of Nurses—another outcome of the jubilee of our beloved Queen. Her Excellency's idea in establishing this order is to supply the sparsely settled parts of our great Northwest, the outlying districts of Canada generally, and the poor in towns and cities, with nursing aid. In this great work hundreds of nurses will in time be employed. The scheme, which is purely non-sectarian, and appeals to all, irrespective of nationality, when thoroughly worked out and more generally understood will become one of our national institutions. Let us wish it every success.

MEDICAL LEGISLATION IN CANADA.

Time will not permit of my discussing the subject of medical legislation in Canada at any length; and besides you will find it very fully treated in the excellent Official Guide and Souvenir, prepared for you by the Executive Committee. In addition I might explain, however, that when the British-American provinces became confederated in 1867, under

the British North America Act, the governance of educational matters was taken away from the Federal authorities and handed over to the provinces, each to look after them in its own way. In consequence we have since had a curious complexity of Medical Legislation, there being practically no uniformity among the provinces in regard to standard of study or qualification for practice. Each province has its own medical board or medical council, as the case may be, which has the power to grant a license to practice either after examination or on simply presenting the diploma of certain recognized universities. In the provinces of Ontario and British Columbia an examination is exacted: in the others the license is given under certain restrictions on presentation of the degree, although in the Maritime Provinces an examining board is now about to be established. In this way, as can readily be seen, a Chinese wall is built round each province, and the frontier is carefully guarded so that it is unsafe for a medical man to pass from one to the other unarmed with a license, because of the risk of fine or even imprisonment. Such a condition of affairs is hardly credible and probably exists nowhere else to the same extent. What is the remedy? Two remedies have been suggested—either the establishment of a central examining board in each province, with a uniform standard of matriculation and a uniformly high standard of curriculum which shall in time lead up to a general scheme of reciprocity; or, secondly, a Dominion Examining Board. The first scheme is at present under serious consideration, although there are many difficulties in the way of its accomplishment, none of which is insuperable, however, providing a spirit of conciliation prevails. The second alternative (a Dominion Examining Board) would in many respects be more desirable, because not only could the licentiate practise in any part of the Dominion, but he could register in Great Britain, and thus receive recognition all over the Empire. As you are doubtless aware, we as a profession suffer in this country from being inhabitants of provinces which are confederated. In an enactment, now of some twelve years' standing, the British Medical Council decided, in effect, to recognize the degrees of universities situated in autonomous provinces only. As a consequence, Australians obtain privileges which are denied to us, being permitted to register in Great Britain without examination. We are being punished for belonging to a colony whose form of Government is recognized to be in advance of theirs and likely to be imitated by them. Let us give our Australian brethren a hint: If the confederation of your provinces be in contemplation, see to it that all matters of professional education are left in the hands of the Central Government, at least as far as qualification for registration is concerned. By so doing you will avoid the almost inextricable tangle in which we in Canada find ourselves. Let common school education go to the various provinces if you will, but for the profession of medicine (and doubtless law also) there should be a uniform standard of matriculation, a uniform curriculum of medical studies, and one Central Examining and Registering Board composed of the best men from all the universities. We hope in Canada to reach that ideal at no distant date; in fact, I have the very best authority for stating that it is not impossible of accomplishment. Some scheme of reci-

procity first arranged would doubtless make the task less difficult, but failing that, our duty is to arrange for some legislation which shall give our better and more ambitious students an opportunity of passing a Dominion Licensing Board (or whatever it may be called) which shall give the privilege of practising their profession not only in any part of their native country, but in any part of the world over which the British flag flies. Such a scheme need not interfere in any way with the autonomy of the provinces. Each may still retain its Provincial Board for the purpose of examining and issuing licenses to those candidates who are satisfied to practise their profession in the limited sphere of their own provinces. I think the legislators of this country will some day (and not far distant either) be induced to see that the system which at present obtains is unworthy of a great and growing country.

In conclusion, allow me to express the hope that the arrangements made by the Executive Committee for the entertainment of our guests may meet with appreciation and approval, and that the memories of the brief sojourn here may be all that is bright and happy. The loyalty and unanimity with which the profession throughout the Dominion has co-operated with us in Montreal to make this meeting of the British Medical Association a success from every point of view deserves and receives our heartiest thanks. We are also greatly indebted for the kind and ready assistance of the Dominion Government, the Quebec Government, and the Civic Government of Montreal. Our hands have been strengthened and the cause we have so much at heart has been furthered by the active good-will of the country's official representatives.

One word more: It is a good thing to be here to-day in the midst of this great gathering so full of power and vigor. The fruits of such a gathering should be tangible, enduring, not ephemeral, not for to day, but for all time. To our kinsmen from beyond the great seas, let me express the earnest hope that in the future our kinship will be a more real and living thing than in the past. We are members of one great family, members one of another, in a peculiar and very real sense. Let that once be recognized, and the statesman's task will be an easy one. In more than words has Canada shown herself worthy of her high heritage, worthy of a part in the Empire, worthy to share in its trials and its triumphs. We who know her history can say with well-founded confidence:

> "So in the long hereafter this Canada shall be
> The worthy heir of British power and British liberty,
> Spreading the blessings of her sway to her remotest bounds,
> While with the fame of her fair name a continent resounds,
> True to her high traditions, to Britain's ancient glory,
> Of patient saint and martyr, alive in deathless story;
> Strong in their liberty and truth to shed from shore to shore
> A light among the nations till nations are no more."

WILLIAM OSLER, M.D., F.R.C.P.,

Professor of Medicine, Johns Hopkins University, Baltimore.

THE ADDRESS IN MEDICINE.

BY WILLIAM OSLER, M.D., F.R.C.P.,

Professor of Medicine, Johns Hopkins University, Baltimore.

BRITISH MEDICINE IN GREATER BRITAIN.

To trace successfully the evolution of any one of the learned professions would require the hand of a master, of one who, like Darwin, could combine the capacity for patient observation with philosophic vision. In the case of Medicine the difficulties are enormously increased by the extraordinary development which belongs to the history of the present century. The rate of progress has been too rapid for us to appreciate, and we stand bewildered, and, as it were, in a state of intellectual giddiness, when we attempt to obtain a broad comprehensive view of the subject. In a safer "middle flight," it is my purpose to dwell on certain of the factors which have moulded the profession in English-speaking lands beyond the narrow seas—of British medicine in Greater Britain. Even for this lesser task (though my affiliations are wide and my sympathies deep), I recognize the limitations of my fitness, and am not unaware that in my ignorance I shall overlook much which might have rendered less sketchy a sketch necessarily imperfect.

Evolution advances by such slow and imperceptible degrees that to those who are part of it the finger of time scarcely seems to move. Even the great epochs are seldom apparent to the participators. During the last century neither the colonists nor the mother country appreciated the thrilling interest of the long fought duel for the possession of this continent. The acts and scenes of the drama, to them detached, isolated and independent, now glide like dissolving views into each other, and in the vitascope of history we can see the true sequence of events. That we can meet here to-day, Britons on British soil in a French province, is one of the far-off results of that struggle. This was but a prelude to the other great event of the eighteenth century, the revolt of the colonies and the founding of a second great English-speaking nation, in the words of Bishop Berkeley's prophecy:

"Time's noblest offspring."

Surely a unique spectacle that a century later descendants of the actors of these two great dramas should meet in an English city in New France! Here the American may forget Yorktown in Louisburg, the Englishman Bunker Hill in Quebec, and the Frenchman both Louisburg and Quebec in Chateauguay; while we Canadians, English and French, in a forgiving spirit, overlooking your unseemly quarrels, are only too happy to welcome you to our country, this land on which and for which you have so often fought.

Once, and only once, before in the history of the world could such a gathering as this have taken place. Divided though the Greeks were, a Hellenic sentiment of extraordinary strength united them in certain assemblies and festivals. No great flight of imagination is required to picture a notable representation of our profession in the fifth century, B.C., meeting in such a colonial town as Agrigentum under the presidency of Empedocles. Delegates from the mother cities, brilliant predecessors of Hippocrates of the stamp of Damocedes and Herodicus, delegates from the sister colonies of Syracuse and other Sicilian towns, from neighboring Italy, from far distant Massilia, and from still more distant Panticapaeum and Istria. And in such an assemblage there would have been men capable of discussing problems of life and mind more brilliantly than in many subsequent periods, in proportion as the pre-Hippocratic philosophers in things medical had thought more deeply than many of those who came after them.

We English are the Modern Greeks, and we alone have colonized as they did, as free people. There have been other great colonial empires, Phœnician, Roman, Spanish, Dutch and French, but in civil liberty and in intellectual freedom Magna Græcia and Greater Britain stand alone. The parallel so often drawn between them is of particular interest with reference to the similarity between the Greek settlements in Sicily and the English plantations on the Atlantic coast. Indeed, Freeman says: "I can never think of America without something suggesting Sicily, or of Sicily without something suggesting America." I wish to use the parallel only to emphasize two points, one of difference and one of resemblance. The Greek colonist took Greece with him. Hellas had no geographical bounds. "Massilia and Olbia were cities of Hellas in as full a sense as Athens or Sparta." While the emigrant Britons changed their sky, not their character, in crossing the great sea, yet the homestayers had never the same feeling towards the plantations as the Greeks had towards the colonial cities of Magna Græcia. If, as has been shrewdly surmised, Professor Seely was Herodotus reincarnate, how grieved the spirit of the "father of History" must have been to say of Englishmen, "Nor have we even now ceased to think of ourselves as simply a race inhabiting an island off the northern coast of the continent of Europe." The assumption of gracious superiority which, unless carefully cloaked, smacks just a little of our national arrogance, is apt to jar on sensitive colonial nerves. With the expansion of the Empire, and the supplanting of a national by an imperial spirit, this will become impossible. That this sentiment never prevailed in Hellas as it did later in the Roman Empire, was due largely to the fact that in literature, in science and in art the colonial cities of Greece early overshadowed the mother cities. It may be because the settlements of Greater Britain were things of slower growth, that it took several generations and several bitter trials to teach a lesson the Greeks never had to learn.

The Greek spirit was the leaven of the old world, the workings of which no nationality could resist. Thrice it saved western civilization, for it had the magic power of leading captivity captive, and making even captive conquerors the missionaries of its culture. What modern medi-

cine owes to it will appear later. "The love of science, the love of art, the love of freedom—vitally correlated to each other and brought into organic union," were the essential attributes of the Greek genius (Butcher). While we cannot claim for the Anglo-Saxon race all of these distinctions, it has in a high degree that one which in practical life is the most valuable, and which has been the most precious gift of the race to the world —the love of freedom.

"Of freedom in her regal seat
Of England."

It would carry one too far afield to discuss the differences between the native Briton and his children scattered so widely up and down the earth. In Canada, South Africa, Australia and New Zealand types of the Anglo-Saxon race are developing which will differ as much from each other, and from the English, as the American does to-day from the original stock; but amid these differences can everywhere be seen those race qualities which have made us what we are—"courage, national integrity, steady good sense, and energy in work." At a future meeting of the Association, perhaps in Australia, a professional Sir Charles Dilke, with a firm grasp on the subject, may deal with the medical problems of Greater Britain in a manner worthy of the Address in Medicine. My task, as I mentioned at the outset, is much less ambitious.

Could some one with full knowledge patiently analyze the characteristics of British medicine he would find certain national traits sufficiently distinct for recognition. Three centuries cannot do very much (and that period has only just passed since the revival of medicine in England), but the local conditions of isolation which have been singularly favorable to the development of special peculiarities in the national character have not been without effect on the medical profession. I cannot do more than touch upon a few features, not distinctive but illustrative, features which may be useful as indicating the sources of influence upon Greater Britain in the past, and which may, perhaps, be suggestive as to lines of progress in the future.

Above the fireplace in Sir Henry Acland's study are three panelled portraits of Linacre, Sydenham and Harvey; the scroll upon them reads: *Literae, Praxis, Scientia.* To this great triumvirate, as to the fountain heads, we may trace the streams of inspiration which have made British medicine what it is to-day.

Linacre, the type of the literary physician, must ever hold a unique place in the annals of our profession. To him was due in great measure the revival of Greek thought in the sixteenth century in England, and in the last Harveian Oration, Dr. Payne has pointed out his importance as a forerunner of Harvey. He made Greek methods available; through him the art of Hippocrates and the science of Galen became once more the subject of careful, first-hand study. Linacre, as Dr. Payne remarks, "was possessed from his youth till his death by the enthusiasm of learning. He was an idealist, devoted to objects which the world thought of little use." Painstaking, accurate, critical, hypercritical, perhaps, he remains to-day the chief literary representative of British medicine. Neither in Britain nor in Greater Britain have we maintained the place

in the world of letters created for us by Linacre's noble start. It is true that in no generation since has the profession lacked a man who might stand unabashed in the temple at Delos, but judged by the fruits of learning, scholars of his type have been more common in France and Germany. Nor is it to our credit that so little provision is made for the encouragement of these studies. For years the reputation of Great Britain in this matter was sustained almost alone by the great Deeside scholar, the Surgeon of Banchory, Francis Adams, the interpreter of Hippocrates to English students. In this century he and Greenhill have well maintained the traditions of Linacre. Their work, and that of a few of our contemporaries, among whom Ogle must be specially mentioned, has kept us in touch with the ancients. But by the neglect of the study of the humanities, which has been far too general, the profession loses a very precious quality.

While in critical scholarship and in accurate historical studies British medicine must take a second place, the influence of Linacre, exerted through the Royal College of Physicians and the old universities, has given to the humanities an important part in education, so that they have moulded a larger section of the profession than in any other country. A physician may possess the science of Harvey and the art of Sydenham, and yet there may be lacking in him those finer qualities of heart and head which count for so much in life. Pasture is not everything, and that indefinable, though well understood, something which we know as breeding is not always an accompaniment of great professional skill. Medicine is seen at its best in men whose faculties have had the highest and most harmonious culture. The Lathams, the Watsons, the Pagets, the Jenners and the Gairdners have influenced the profession less by their special work than by exemplifying those graces of life and refinements of heart which make up character. And the men of this stamp in Greater Britain have left the most enduring mark—Beaumont, Bovell and Hodder in Toronto; Holmes, Campbell and Howard in this city; the Warrens, the Jacksons, the Bigelows, the Bowditchs and the Shattucks in Boston; Bard, Hossack, Francis, Clark and Flint in New York; Morgan, Shippen, Redman, Rush, the elder Wood, the elder Pepper and the elder Mitchell of Philadelphia—Brahmins all, in the language of the greatest Brahmin among them, Oliver Wendell Holmes—these, and men like unto them, have been the leaven which has raised our profession above the dead level of a business.

The *literæ humaniores*, represented by Linacre, revived Greek methods; but the faculty at the end of the sixteenth and the beginning of the seventeenth centuries was in a slough of ignorance and self-conceit, and not to be aroused even by Moses and the prophets in the form of Hippocrates and the fathers of medicine.

In the pictures referred to, Sydenham is placed between Linacre and Harvey; but science preceded practice, and Harvey's great Lumleian lectures were delivered before Sydenham was born. Linacre has been well called by Payne, Harvey's intellectual grandfather. "The discovery of the circulation of the blood was the climax of that movement which began a century and a half before with the revival of Greek medical

classics and especially of Galen" (Payne). Harvey returned to Greek methods, and became the founder of modern experimental physiology and the great glory of British scientific medicine. The demonstration of the circulation of the blood remains in every detail a model research. I shall not repeat the oft-told tale of Harvey's great and enduring influence, but I must refer to one feature which, until lately, has been also a special characteristic of his direct successors in Great Britain. Harvey was a practitioner and a hospital physician. There are gossiping statements by Aubrey to the effect that "he fell mightily in his practice" after the publication of the *De Motu Cordis*, and that his "therapeutic way" was not admired; but to these his practical success is the best answer. It is remarkable that a large proportion of all the physiological work of Great Britain has been done by men who have become successful hospital physicians or surgeons. I was much impressed by a conversation with Professor Ludwig in 1884. Speaking of the state of English physiology, he lamented the lapse of a favorite English pupil from science to practice; but, he added, "while sorry for him, I am glad for the profession in England.' He held that the clinical physicians of that country had received a very positive impress from the work of their early years in physiology and the natural sciences. I was surprised at the list of names which he cited—among them I remember Bowman, Paget, Savory and Lister. Ludwig attributed this feature in part to the independent character of the schools in England, to the absence of the university element, so important in medical life in Germany, but above all to the practical character of the English mind, the better men preferring an active life in practice to a secluded laboratory career.

Thucydides it was who said of the Greeks that they possessed "the power of thinking before they acted, and of acting too." The same is true in a high degree of the English race. To know first what has to be done, then to do it, comprises the whole philosophy of practical life. Sydenham—*Angliæ lumen* as he has been well called—is the model practical physician of modern times. Linacre led Harvey back to Galen, Sydenham to Hippocrates. The one took Greek science, the other not so much Greek medicine as Greek methods, particularly intellectual fearlessness, and a certain knack of looking at things. Sydenham broke with authority and went to Nature. It is an extraordinary fact that he could have been so emancipated from dogmas and theories of all sorts. He laid down the fundamental proposition, and acted upon it, that "all diseases should be described as objects of natural history." To do him justice we must remember, as Dr. John Brown says, "in the midst of what a mass of errors and prejudices, of theories actively mischievous, he was placed, at a time when the mania of hypothesis was at its height, and when the practical part of his art was overrun and stultified by vile and silly nostrums."

Sydenham led us back to Hippocrates; I would that we could be led oftener to Sydenham! How necessary to bear in mind what he says about the method of the study of medicine. "In writing, therefore, such a natural history of diseases, every merely philosophical hypothesis should be set aside, and the manifest and natural phenomena, however

minute, should be noted with the utmost exactness. The usefulness of this procedure cannot be easily over-rated, as compared with the subtle inquiries and trifling notions of modern writers, for can there be a shorter, or indeed any other way of coming at the morbific causes, or of discovering the curative indications, than by a certain perception of the peculiar symptoms? By these steps and helps it was that the father of physic, the great Hippocrates, came to excel, his theory being no more than an exact description or view of Nature. He found that Nature alone often terminates diseases, and works a cure with a few simple medicines, and often enough with no medicine at all." Well, indeed, has a recent writer remarked, "Sydenham is unlike every previous teacher of the principles and practice of medicine in the modern world." He, not Linacre or Harvey, is the model British physician, in whom were concentrated all those practical instincts upon which we lay such stress in the Anglo-Saxon character. The Greek faculty, which we possess, of thinking and acting has enabled us, in spite of many disadvantages, to take the lion's share in the great practical advances in medicine. The three greatest scientific movements of the century have come from Germany and France. Bichat, Laennec and Louis laid the foundation of modern clinical medicine; Virchow and his pupils of scientific pathology; while Pasteur and Koch have revolutionized the study of the causes of diseases; and yet the modern history of the art of medicine could almost be written in its fulness from the records of the Anglo-Saxon race. We can claim every practical advance of the very first rank—vaccination, anæsthesia, preventive medicine, and antiseptic surgery—the "captain's jewels in the carcanet" of the profession, besides which can be placed no others of equal lustre.

One other lesson of Sydenham's life needs careful conning. The English Hippocrates, as I said, broke with authority. His motto was:

> "Thou Nature art my Goddess: to thy law
> My services are bound."

Undue reverence for authority as such, a serene satisfaction with the *status quo*, and a fatuous objection to change have often retarded the progress of medicine. In every generation, in every country, there have been and ever will be *laudatores temporis acti*, in the bad sense of that phrase, not a few of them, men in high places, who have lent the weight of a complacent conservatism to bolster up an ineffectual attempt to stay the progress of new ideas. Every innovator from Harvey to Lister has been made to feel its force. The recently issued life of Thomas Wakley is a running commentary on this spirit, against the pricks of which he kicked so hard and so effectually. But there are signs of a great change. The old Universities and the Colleges, once the chief offenders, have been emancipated, and remain no longer, as Gibbon found them, steeped in port and prejudice. The value of authority *per se* has lessened enormously, and we of Greater Britain have perhaps suffered as the pendulum has swung to the other extreme. Practice loves authority, as announced in "the general and perpetual voice of men" (Hooker). Science must ever hold with Epicharmus, that a judicious distrust and a wise scepticism

are the sinews of the understanding. And yet the very foundations of belief in almost everything relating to our art rest upon authority. The practitioner cannot always be the judge—the responsibility must often rest with the teachers and investigators who can only learn in the lessons of history the terrible significance of the word. In the treatment of fevers the fetters of a thousand years were shattered by Sydenham, shattered only to be riveted anew. How hard was the battle in this century against the entrenched and stubborn foe! Listen to the eloquent pleadings of Stokes, pleading, as did Sydenham, against authority and against the bleedings, the purgings and sweatings of fifty years ago. "Though his hair be grey, and his authority high, he is but a child in knowledge, and his reputation an error. On a level with a child so far as correct appreciation of the great truths of medicine is concerned, he is very different in other respects, his powers of doing mischief are greater: he is far more dangerous. Oh! that men would stoop to learn, or at least cease to destroy." The potency of human authority among "the powers that be" was never better drawn than by the judicious Hooker in his section on this subject. "And this not only with 'the simpler sort,' but the learneder and the wiser we are the more such arguments in some cases prevail with us. The reason why the simpler sort are moved with authority is the conscience of their own ignorance; whereby it cometh to pass that having learned men in admiration, they rather fear to dislike them than know wherefore they should allow and follow their judgments. Contrariwise with them that are skilful, authority is much more strong and forcible; because they only are able to discern how just cause there is why to some men's authority so much should be attributed. For which cause the name of Hipprocrates (no doubt) were more effectual to persuade even such men as Galen himself than to move a silly empiric."

Sydenham was called "a man of many doubts," and therein lay the secret of his great strength.

Passing now to the main question of the development of this British medicine in Greater Britain, I must at once acknowledge the impossibility of doing justice to it. I can only indicate a few points of importance, and I must confine my remarks chiefly to the American part of Greater Britain.

We may recognize three distinct periods, corresponding to three distinct waves of influence: the first from the early migrations to about 1820, the second from about 1820 to 1860, and the third from about 1860 to the present time.

The colonial settlements were contemporaneous with the revival of medicine in England. Fellow students of Harvey at Cambridge might have sailed in the *Mayflower* and the *Arbella*. The more carefully planned expeditions usually enlisted the services of a well-trained physician, and the early records, particularly of the New England colonies, contain many interesting references to these college-bred men. Giles Firman, who settled in Boston in 1632, a Cambridge man, seems to have been the first to give instruction in medicine in the new world. The parsons of that day had often a smattering of physic, and illustrated what Cotton Mather called an "angelic conjunction." He says, "Ever since the days

of Luke the Evangelist skill in *Physic* has been frequently professed and practised by Persons whose more declared Business was the study of Divinity." Firman himself, finding physic "but a meane helpe," took orders. These English physicians in the New England colonies were scholarly, able men. Roger Chillingworth, in Hawthorne's "Scarlet Letter," has depicted them in a sketch of his own life—"Made up of earnest, studious, thoughtful, quiet years, bestowed faithfully for the increase of knowledge, faithfully, too, for the advancement of human welfare—men thoughtful for others, caring little for themselves, kind, just, true, and of constant if not warm affections," a singularly truthful picture of the old colonial physician.

Until the establishment of medical schools—University of Pennsylvania, 1763; King's College (afterwards Columbia), 1767; Harvard, 1782—the supply of Physicians for the colonies came from Great Britain, supplemented by men trained under the old apprentice system, and of colonists who went to Edinburgh, Leyden and London for their medical education. This latter group had a most powerful effect in moulding professional life in the pre-revolutionary period. They were men who had enjoyed, not alone the instruction, but often the intimate friendship, of the great English and European physicians. Morgan, Rush, Shippen, Bard, Wistar, Hossock and others had received an education comprising all that was best in the period, and had acquired the added culture which can only come from travel and wide acquaintance with the world. Morgan, the founder of the Medical School of the University of Pennsylvania, was away seven years, and before returning had taken his seat as a corresponding member of the French Academy of Surgery, besides having been elected a Fellow of the Royal Society. The war of Independence interrupted temporarily the stream of students, but not the friendship which existed between Cullen and Fothergill and their old pupils in America. The correspondence of these two warm friends of the colonies testifies to the strong professional intimacy which existed at the time between the leaders of the profession in the old and new worlds. But neither Boerhaave, Cullen nor Fothergill stamped colonial medicine as did the great Scotchman, John Hunter. Long, weary centuries separated Harvey from Galen: not a century elapsed from the death of the great physiologist to the advent of the man in whose phenomenal personality may be seen all the distinctive traits of modern medicine, and the range of whose mighty intellect has had few, if any, equals since Aristotle. Hunter's influence on the profession of this continent, so deep and enduing, was exerted in three ways. In the first place, his career as an army surgeon, and his writings on subjects of special interest to military men, carried his work and ways into innumerable campaigns in the long French wars, and in the war of Independence. Hunter's works were reprinted in America as early as 1791 and 1793. In the second place, Hunter had a number of distinguished students from the colonies, among whom were two who became teachers of wide reputation. William Shippen, the first Professor of Anatomy in the University of Pennsylvania, lived with Hunter on terms of the greatest intimacy. He brought back his methods of teaching and some measure of his spirit. With the exception of Hewson

and Home, Hunter had no more distinguished pupil than Philip Syng Physick, who was his house surgeon at St. George's Hospital, and his devoted friend. For more than a generation Physick had no surgical compeer in America, and enjoyed a reputation equalled by no one save Rush. He taught Hungarian methods in the largest medical school in the country, and the work of his nephew (Dorsey) on surgery is very largely Hunter modified by Physick. But in a third, and much more potent way, the great master influenced the profession of this continent. Hunter was a naturalist, to whom pathological processes were only a small part of a stupendous whole governed by law, but which could never be understood until the facts had been accumulated, tabulated and systematized. By his example, by his prodigious industry and by his suggestive experiments he led men again into the old paths of Aristotle, Galen and Harvey. He made all thinking physicians naturalists: he lent a dignity to the study of organic life, and re-established a close union between medicine and the natural sciences. Both in Britain and Greater Britain he laid the foundation of the gerat collections and museums, particularly those connected with the medical schools. The Wister-Horner and the Warren museums originated with men who had been greatly influenced by Hunter. He was, moreover, the intellectual father of that interesting group of men on this side of the Atlantic who, while practising as physicians, devoted much time and labor to the study of Natural History.

I wish that time permitted me to do justice to the long list of men who have been devoted naturalists, and who have made contributions of great value. Benjamin Smith Barton, David Hossack, Jacob Bigelow, Richard Harlan, John D. Godman, Samuel George Morton, John Collins Warren, Samuel L. Mitchell, J. Aiken Meigs and many others have left the records of their industry in their valuable works, and in the Transactions of the various Societies and Academies. In Canada, many of our best naturalists have been physicians, and collections in this city testify to the industry of Holmes and McCullough. I was regretting the humanities a few minutes ago, and now I have to mourn the almost complete severance of Medicine from the old Natural History. To a man, the most delightful recollections of whose student-life are the Saturdays spent with a preceptor who had a Hunterian appetite for specimens—anything from a trilobite to an acarus—to such a one, across the present brilliant outlook, comes the shadow of the thought that the conditions of progress will make impossible again such careers as those of William Kitchen Parker and William Carmichael McIntosh.

Until about 1820 the English profession of this continent knew little else than British medicine. After this date in the United States the ties of professional union with the old country became relaxed, owing in great part to the increase in the number of home schools, and in part to the development of an American literature. To 1820 one hundred and fourteen native medical books of all kinds had been issued from the press, and one hundred and thirty-one reprints and translations, the former English, the latter, few in number and almost exclusively French (Billings). Turning for a few minutes to the condition of the profession in

Canada during this period, I regret that I cannot speak of the many interesting questions relating to the French colonies. I may mention, however, that with the earliest settlers physicians had come, and among the Jesuits, in their devoted missions, there are records of *donnés* (laymen attached to the service) who were members of the profession. One of these, René Goupil, suffered martyrdom at the hands of the Iroquois.

Between the fall of Quebec in 1759 and 1820 the English population had been increased by the settlement of Upper Canada, chiefly by United Empire Loyalists from the United States, and after the war of 1812 by settlers from the Old Country. The physicians in the sparsely settled districts were either young men who sought their fortunes in the new colony, or were army surgeons who had remained after the revolutionary war or the war of 1812. The military element gave for some years a very distinctive stamp to the profession. These surgeons were men of energy and ability, who had seen much service and were accustomed to order, discipline and regulations. Sabine in his *History of the Loyalists* refers to the Tory proclivities of the doctors, and says that they were not so much disturbed as the lawyers and clergymen. Still, a good many of them left their homes "for conscience' sake," and Caniff, in his *History of the Profession in Upper Canada*, gives a list of those known to have been among the United Empire Loyalists. The character of the men who controlled the profession of the new colony is well shown by the proceedings of the Medical Board, which was organized in 1819. Drs. Macauley and Widmer, both army surgeons, were the chief members. The latter, who has well been termed the father of the profession in Upper Canada, a man of the very highest character, did more than any one else to promote the progress of the profession, and throughout his long career his efforts were always directed in the proper channels. On looking through Caniff's most valuable work one is much impressed by the sterling worth and mettle of these old army surgeons, who in these early days formed the larger part of the profession. The minutes of the Medical Board indicate with what military discipline the candidates were examined, and the percentage of rejections has probably never been higher in the history of the province than it was in the first twenty years of the existence of the Board. One picture on the canvas of those early days lingers in the memory, illustrating many of the most attractive features of a race which has done much to make this country what it is to-day. Widmer was the type of the dignified old army surgeon, scrupulously punctilious and in every detail regardful of the proprieties of life. 'Tiger' Dunlop may be taken as the very incarnation of that restless, roving spirit which has driven the Scotch broadcast upon the world. After fighting with the Connaught Rangers in the war of 1812, campaigning in India clearing the Sangur of tigers—hence his soubriquet 'Tiger,'—lecturing on Medical Jurisprudence in Edinburgh, writing for Blackwood, editing the *British Press* and the *Telescope*, introducing Beck's Medical Jurisprudence to English readers and figuring as director and promoter of various companies, this extraordinary character appears in the young colony as 'Warden of the Black Forest' in the employ of the Canada Company. His life in the backwoods at Gair-

braid, his *Noctes Ambrosianæ Canadensis*, his famous 'Twelve Apostles' as he called the mahogany liquor stand (each bottle a full quart), his active political life, his remarkable household, his many eccentricities—are they not all pourtrayed to the life in the recently issued "*In the Days of the Canada Company*"?

Turning now to the second period we may remark in passing that the nineteenth century did not open very auspiciously for British medicine. Hunter had left no successor, and powerful as had been his influence it was too weak to stem the tide of abstract speculation, with which Cullen, Brown and others flooded the profession. No more sterile period exists than the early decades of this century. Willan, a great naturalist in skin diseases, with a few others, save it from other oblivion. The methods of Hippocrates, of Sydenham and of Hunter had not yet been made available in every day work. The awakening came in France, and such an awakening! It can be compared with nothing but the renaissance in the sixteenth and seventeenth centuries, which gave us Vesalius and Harvey. 'Citizen' Bichat and Broussais led the way, but Laennec really created clinical medicine as we know it to-day. The discovery of auscultation was only an accident, of vast moment it is true, in a systematic study of the correlation of symptoms with anatomical changes. Louis, Andral and Chomel extended the reputation of the French School, which was maintained to the full until the sixth decade, when the brilliant Trousseau ended a long line of Paris teachers, whose audience had been world-wide. The revival of medicine in Great Britain was directly due to the French. Bright and Addison, Graves and Stokes, Forbes and Marshall Hall, Latham and Bennett were profoundly affected by the new movement. In the United States Anglican influence did not wane until after 1820. Translations of the works of Bichat appeared as early as 1802, and there were reprints in subsequent years, but it was not until 1823 that the first translation (a reprint of Forbes' edition) of Laennec was issued. Broussais' works became very popular in translations after 1830, and in the Journals from this time on the change of allegiance became very evident. But men rather than books diverted the trend of professional thought. After 1825 American students no longer went to Edinburgh and London, but to Paris, and one can say that between 1830 and 1860 every teacher and writer of note passed under the Gallic yoke. The translations of Louis' works, and the extraordinary success of his American pupils, a band of the ablest young men the country had ever seen, added force to the movement. And yet this was a period in which American Medical literature was made up largely of pirated English books, and the Systems, Encyclopedias, and Libraries, chiefly reprints, testify to the zeal of the publishers. Stokes, Graves, Todd, Bennett, and Williams furnished Anglican pap to the sucklings, as well as strong meat to the full grown. In spite of the powerful French influence the text-books of the schools were almost exclusively English.

In Canada the period from 1820 to 1860 saw the establishment of the English Universities and Medical Schools. In Montreal the agencies at work were wholly Scotch. The McGill Medical School was organized by Scotchmen, and from its inception has followed closely Edinburgh methods.

The Paris influence, less personal, was exerted chiefly through English and Scotch channels. The Upper Canada Schools were organized by men with English affiliations, and the traditions of Guy's, St. Bartholomew's, St. Thomas's St. Georges', and of the London Hospital, rather than those of Edinburgh, have prevailed in Toronto and Kingston.

The local French influence on British medicine has been very slight. In the early decades of the century, when the cities were smaller, and the intercourse between the French and English somewhat closer, the reciprocal action was more marked. At that period English methods became somewhat the vogue among the French; several very prominent French-Canadians were Edinburgh graduates. Attempts were made in the medical journals to have communications in both languages, but the fusion of the two sections of the profession was no more feasible than the fusion of the two nationalities, and the development has progressed along separate lines.

The third period dates from about 1860, when the influence of German medicine began to be felt. The rise of the Vienna School was for a long time the only visible result in Germany of the French renaissance. Skoda, the German Laennec, and Rokitansky, the German Morgagni, influenced English and American thought between 1840 and 1860, but it was not until after the last date that Teutonic medicine began to be felt as a vitalizing power, chiefly through the energy of Virchow. After the translation of the Cellular Pathology by Chance (1860), the way lay clear and open to every young student who desired inspiration. There had been great men in Berlin before Virchow, but he made the town on the Spree a Mecca for the faithful of all lands. From this period we can date the rise of German influence in the profession of this continent. It came partly through the study of pathological histology under the stimulus given by Virchow, and partly through the development of the specialties, particularly diseases of the eye, of the skin, and of the larynx. The singularly attractive courses of Hebra, the organization on a large scale in Vienna of a system of graduate teaching designed especially for foreigners, the remarkable expansion of the German laboratories, combined to divert the stream of students from France. The change of allegiance was a deserved tribute to the splendid organization of the German Universities, to the untiring zeal and energy of their professors, and to their single-minded devotion to science for its own sake.

In certain aspects the Australasian settlements present the most interesting problems of Greater Britain. More homogeneous, thoroughly British, isolated, distant, they must work out their destiny with a less stringent environment than, for example, surrounds the English in Canada. The traditions are more uniform, and of whatever character have filtered through British channels. The professional population of native-trained men is as yet small, and the proportion of Graduates and Licentiates from the English, Scotch and Irish Colleges and Boards guarantees the dominance of Old Country ideas. What the maturity will show cannot be predicted, but the vigorous infancy is full of "crescent promise." On looking over the files of Australian and New Zealand journals one is impressed with the monotonous similarity of the diseases in the

Antipodes to those of Great Britain and of this continent. Except in the matter of parasitic affections and snake-bites, the nosology presents few distinctive qualities. The proceedings of the four Intercolonial Congresses indicate a high level of professional thought. In two points Australia has not progressed as other parts of Greater Britain. The satisfactory regulation of practice, so early settled in Canada, has been beset with many difficulties. Both in the United States and in Australia the absence of the military element, which was so strong in Canada, may, in part at least, account for the great difference which has prevailed in this matter of the State license. The other relates to the question of ethics, to which one really does not care to refer, were it not absolutely forced upon the attention in reading the journals. Elsewhere professional squabbles, always so unseemly and distressing, are happily becoming very rare, and in Great Britain and on this side of the water we try at any rate to wash our dirty linen at home. In the large Australian cities differences and dissensions seem lamentably common. Surely they must be fermented by the atrocious system of election to the hospitals, which plunges the entire profession every third or fourth year into the throes of a contest in which the candidates have to solicit the suffrages of from 2,000 to 4,000 voters! Well, indeed, might Dr. Batchelor say, in his address to the Fourth Intercolonial Congress: "It is a scandal that in any British community, much less in a community which takes pride in a progressive spirit, such a pernicious system should survive for an hour."

Of India, 'of Vishnu-land,' what can one say in a few minutes? Three thoughts at once claim recognition. Here, in the dim dawn of history, with the great Aryan people, was the intellectual cradle of the world. To the Hindoos we owe a debt which we can at any rate acknowledge; and even in medicine many of our traditions and practices may be traced to them, as may be gathered from that most interesting *History of Aryan Medical Science* by the Thakore Saheb of Gondal.

Quickly there arises the memory of the men who have done so much for British medicine in that Great Empire. Far from their homes, far from congenial surroundings, and far from the stimulus of scientific influences, Annesley and Ballingall, Twining, Morehead, Waring, Parkes, Cunningham, Lewis, Vandyke Carter and many others have nobly upheld the traditions of Harvey and of Sydenham. On the great epidemic diseases how impoverished would our literature be in the absence of their contributions. But then there comes the thought of 'the petty done, the undone vast' when one considers the remarkable opportunities for study which India has presented. Where else in the world is there such a field for observation in cholera, leprosy, dysentery, the plague, typhoid fever, malaria, and in a host of other less important maladies? And what has the British Government done towards the scientific investigation of the diseases of India? Until recently little or nothing, and the proposal to found an institute for the scientific study of diseases has actually come from the native chiefs! The work of Dr. Hankin and of Professor Haffkine, and the not unmixed evil of the brisk epidemic of plague in Bombay, may arouse the officials to a consciousness of their shortcomings. While sanitary progress has been great, as shown in a reduction of the

mortality from 69 per mille before 1857 to 15 per mille at present, many problems are still urgent, as may be gathered from reading Dr. Harvey's presidential address in the proceedings of the Indian Medical Congress. That typhoid fever can be called the "scourge of India," and that the incidence of the disease should remain so high among the troops, points to serious sanitary defects as yet unremedied. As to the prevalence of venereal diseases among the soldiers—an admission of nearly 500 mille tells its own tale.

On reading the journals and discussions one gets the impression that matters are not as they should be in India. There seems to be an absence of proper standards of authority. Had there been in each Presidency during the past twenty years thoroughly equipped Government laboratories in charge of able men, well trained in modern methods, the contributions to our knowledge of epidemic diseases might have been epoch-making, and at any rate we should have been spared the crudeness which is evident in some of the work (particularly in that upon Malaria) of zealous but badly trained men.

In estimating the progress of medicine in the countries comprising Greater Britain, the future rather than the present should be in our minds. The strides which have been taken during the past twenty years are a strong warrant that we have entered upon a period of exceptional development. When I see what has been accomplished in this city, in the short space of time since I left, I can scarcely credit my eyes. The reality exceeds the utmost desires of my dreams. The awakening of the profession in the United States to a consciousness of their responsibilities and opportunities has caused unparalleled changes, which have given an impetus to medical work which has already borne a rich harvest. Within two hundred years who can say where the intellectual centre of the Anglo-Saxon race will be? The mother country herself has only become an intellectual nation of the first rank within a period altogether too short to justify a prediction that she has reached the zenith. She will probably reverse the history of Hellas, in which the mental superiority was at first with the colonies. At the end of the next century ardent old-world students may come to this side 'as o'er a brook,' seeking inspiration from great masters, perhaps in this very city; or the current may turn towards the schools of the great nations of the South. Under new and previously unknown conditions the Africander, the Australian, or the New Zealander may reach a development before which even the 'glory that was Greece' may pale. Visionary as this may appear, it is not one whit more improbable to-day than would have been a prophecy made in 1797 that such a gathering as the present would be possible within a century on the banks of the St. Lawrence.

Meanwhile to the throbbing vitality of modern medicine the two great meetings held this month, in lands so widely distant, bear eloquent testimony. Free, cosmopolitan, no longer hampered by the dogmas of schools, we may feel a just pride in a profession almost totally emancipated from the bondage of error and prejudice. Distinctions of race, nationality, color and creed are unknown within the portals of the temple of Aesculapius. Dare we dream that this harmony and cohesion so

rapidly developing in medicine, obliterating the strongest lines of division, knowing no tie of loyalty but loyalty to truth—dare we hope, I say, that in the wider range of human affairs a similar solidarity might ultimately be reached? Who can say that the forges of Time will weld no links between man and man stronger than those of religion or of country? Some Son of Beor, touched with a prophetic vision, piercing the clouds which now veil the eternal sunshine of the mountain top, some spectator of all time and all existence (to use Plato's expression), might see in this gathering of men of one blood and one tongue a gleam of hope for the future, of hope at any rate that the great race, so dominant on the earth to-day, may progress in the bonds of peace—a faint glimmer, perhaps, of the larger hope of humanity of that day when "the common sense of most shall hold a fretful 'world' in awe." But these, I fear, are the dreams of the closet student who knows not the world nor its ways. There remains for us, Greater Britons, of whatsoever land, the bounden duty to cherish the best traditions of our fathers, and particularly of the men who gave to British medicine its most distinctive features, of the men, too, who found for us the light and liberty of Greek thought—Linacre, Harvey and Sydenham, those 'ancient founts of inspiration,' and models for all time in Literature, Science and Practice.

THE ADDRESS IN SURGERY.

BY W. MITCHELL BANKS, M.D., EDIN.,

Fellow and Member of Council of the Royal College of Surgeons of England; Surgeon to the Liverpool Royal Infirmary; Emeritus Professor of Anatomy, University College, Liverpool.

THE SURGEON OF OLD IN WAR.

I am indeed greatly honored by having to deliver to you to-day an Address in Surgery. Fortunately for me the title is a wide one, and I shall take advantage of that fact to diverge from the strict consideration of surgical disease, and shall offer you instead a brief sketch of some of the most notable work done of old by a body of members of our profession, who have never received their due reward—those, namely, who have devoted their lives to the succour of the sick and the wounded in war.

MILITARY SURGEONS IN THE ROMAN ARMY.

Twelve months ago my friend, Dr. Barnes, of Carlisle, ex-President of this Association, made me acquainted with a remarkable paper by the late Sir James Simpson, entitled, Was the Roman Army provided with Medical Officers?—a paper exhibiting such profound learning, so charmingly written, and so little known that I need not make any apology for acquainting you with some of its chief points of interest.

The most careful investigations have failed to make out from their writings whether the Romans regularly appointed physicians and surgeons to their armies or not, although nearly every other question relating to their military organization has been treated of, sometimes very fully. Curiously enough, what little information we possess on the subject comes mainly from mortuary or from votive tablets. Borcovicus, in Northumberland—now called Housesteads—was one of the principal stations on the line of Hadrian's wall. Here, about seventy years ago, was found a monumental tablet, now in the Newcastle museum. On it is the following inscription:

D M	D(IIS) M(ANIBUS)
ANICIO	ANICIO
INGENUO	INGENUO
MEDICO	MEDICO
ORD COH	ORD(INARIO) COH(ORTIS)
I TUNGR	PRIMAE TUNGR(ORUM)
VIX AN XXV	VIX(IT) AN(NOS) XXV

The First Tungrian Cohort is known to have been present at the battle of the Mons Grampius, and to have served at Castlecary, at Cramond, near Edinburgh, in Cumberland, and at Housesteads. The tablet is highly

As Sunlight :

is to Darkness

is the condition of the woman who has been relieved from some functional disturbance to her state before relief. Don't you know, Doctor, that there are few cases that pay the physician so well as those of women—and the Doctor that relieves one woman lays the foundation for many more such cases—all women talk, and your patient will tell her friends. ASPAROLINE COMPOUND gives relief in all cases of functional disturbance—Leucorrhœa, Dysmenorrhœa, etc., and in the cases it does not cure it gives relief. We will send you enough ASPAROLINE COMPOUND—free—to treat one case.

Dr. Breton, of Lowell, Mass, says :

"I wish to inform you of the very satisfactory results obtained from my use of Asparoline. I have put it to the most crucial tests, and in every case it has done more than it was required to do. I recommend it in all cases of dysmenorrhœa."

FORMULA :

Parsley Seed,	- - - -	Grs. 30
Black Haw, (bark of the root)		" 60
Asparagus Seed,	- - -	" 30
Gum Guaiacum,	- - -	" 30
Henbane Leaves,	- - -	" 6
Aromatics.		To Each Fluid Ounce.

Prepared Solely by . . . . . .

Henry K. Wampole & Co., Pharmaceutical Chemists, - -

PHILADELPHIA, PA.

ornamented, and antiquarians hold that a rabbit and round bucklers carved in the upper part, which are emblems of Spain, show that the young military doctor was probably a native of that country. From various works treating of Roman inscriptions Simpson was enabled to find that four more tablets, in which surgeons of cohorts are mentioned, existed. They were found at Rome. One of them is a votive tablet, the inscription upon which intimates that it was dedicated by Sextus Titius Alexander to Æsculapius and to the safety of his fellow soldiers. It was cut in the year of the consulship of F. Flavius Sabinus, which is known to have been A.D. 83. As the Roman legion consisted of ten cohorts, it is interesting to know that there were not only medical officers attached to each cohort, but also one attached to the legion—a sort of surgeon-colonel, as we should call him nowadays. Three tablets have been discovered in which the *medicus legionis* is mentioned. One found at Verona was a tablet raised by Scribonia Faustina to her dearest husband, J. Caelius Arrianus, medical officer to the Second Italian Legion, who died at the age of 49 years and 7 months. Furthermore, Simpson routed out of Mommsen's Latin inscriptions of Naples a tablet, now in the Dresden collection, which was found in the Elysian fields near Baiâe, close to the Portus Julius, which was the station of a division of the Imperial fleet. The inscription tells that M. Satrius Longinus, *medicus duplicatorius* to the Trireme Cupid, and the heirs of those freed by Julia Veneria erected the tablet to the manes of that deserving lady. The term *duplicatorius* means that by reason of long or meritorious service he was entitled to double pay and rewards. These little gleanings from Simpson's paper show what an interesting one it is, and one is astonished at the labor that must have been expended in digging up the information contained in it.

AMBROISE PARÉ.

Hundreds of years went past before there came upon the scene any military surgeon of note, but when he did appear he was a man of transcendent merit—the illustrious Ambroise Paré. From 1517 to 1590, for seventy-three years, he lived a long and incessantly active life, the contemporary of Vesalius, the immediate predecessor of Harvey. We have only time to glance at the soldier-surgeon side of Paré's life. For over thirty years he followed the wars under four kings of France—Henry the Second, Francis the Second, Charles the Ninth, and Henry the Third, with intervals of a few years at home in Paris. Perpignan, Mertz, Verdun, Rheims, Hesdin (where he was taken prisoner and had to write to his wife for his ransom), St. Quintin, La Fère, Amiens, the taking of Rouen, Dreux, Moncontour—these are but some of the bloody battles and sieges at which he was present. Through them all his humanity, his love of his profession, his independent character, and his jovial, frank disposition carried him safe, and made for the son of the poor country joiner warmer friends among the greatest and noblest warriors of France. Even that miserable monster, Charles the Ninth, loved the Huguenot surgeon, and when the awful day of St. Bartholomew came, Paré was spared to tend his wretched master through the brief term of agonized and re-

morseful life that was given him. The description in Dumas' novel, the *Two Dianas*, of the wound of the famous warrior, Duke of Guise, where the lance entered above the eye and came out between the nucha and the left ear, breaking short off, and how Paré lugged it out, with the chance that when it did come, one terrible gush of blood would finish his illustrious patient's life and his own career at the same moment—the picture of all this is real history.

Amid all the splendid work, both anatomical and surgical, which Paré did the application of the ligature to bleeding arteries is of course that with which his name will be for ever associated. In this day of grace it is impossible for us to imagine the horrors that awaited a wretched man so soon as his limb was cut off and the process of stopping the bleeding began. Think of the raw and exquisitely sensitive stump exposed to the red hot cautery or plunged into boiling pitch! For this frightful treatment Paré substituted the ligature, which in our own day, employed in the form of an aseptic animal material which the tissues quietly absorb, has practically reached the pitch of perfection. In his time, too, there was a fixed belief that the danger from gunshot wounds arose from the poison of the gunpowder conveyed on the bullet To destroy this poison the treatment was to pour into the wound boiling oil in which elderwood bark had been stewed. On one occasion, not having this infernal concoction at hand, Paré used a cold mixture of yolk of egg, oil of roses, and turpentine to his wounded soldiers. He passed a sleepless night from dread that this would injure those to whom it had been applied, and his delight next day was proportionately great when he found that he had had but little pain, while their wounds were free from inflammation and swelling. This was his panacea for wounds ever afterwards. There are of course persons who wish to make out that he was not original in the matter of the ligature. He himself says this about it: "Taught me as I interpret it by the suggestion of some good Angel, for I neither learnt it of my masters, nor of any other man. And thus I wish all chirurgions to doe. For it is not in our Art as it is in civill affaires, that prescription, law, or authority should prevail over right reason." But these cavillers have doubtless never heard of an ancient proverb which says that there is nothing new under the sun. In spite of them the world will ever believe in a glorious trio—Paré, the Frenchman, who invented the ligature; Morton, the American, who discovered anæsthetics; and Lister the Englishman, who introduced antiseptics. In the fulness of years, possessed of affluence, and surrounded by friends, died Paré, the whilom poor barber-chirurgeon, now a Councillor of State and Surgeon-in-Chief to the King. One final touch will perhaps reveal a sentiment that permeated and guided his every labor. On one occasion, after the successful treatment of a wounded officer, he made this wise and reverent remark, afterwards adopted as his motto: "*Je le pansay; Dieu le guarist*"—I treated him; God cured him.

ROBERT CLOWES.

Coming to England, a surgeon who saw no little fighting was Robert Clowes, who was born somewhere about 1540 and died in 1604. He

served in France in the army commanded by the Earl of Surrey, and was afterwards for several years in the navy. He then began practice in London, and was made surgeon to St. Bartholomew's and Christ's Hospitals. But, after being about fourteen years in civil practice, he was despatched by Queen Elizabeth's orders into the Low countries to attend upon the Earl of Leicester, Commander of Her Majesty's forces. He was at Zutphen when Sir Philip Sydney was killed. His last piece of service was a glorious one, he being with our fleet that defeated the Spanish Armada. It is told of him that he always kept beside him his military surgical chest with the bear and ragged staff of his old chief Leicester on the lid. He finally settled down once more in London, where he was very successful in practice, and was made surgeon to the Queen. He wrote several works in English, of which the most important is entitled: *A profitable and necessarie Booke of Observations for all those that are burned with the flame of gunpowder, &c., and also for curing of wounds made with musket and caliver shot, and other weapons of war commonly used at this day both by sea and land.* A good half of this treatise is occupied with a record of surgical cases of note which he had treated, and this renders the work very entertaining, inasmuch as we get an accurate and positive knowledge of everything that was done for a wounded man in those days, while there are numerous little side touches very characteristic of life at the time it was written. He tells us, for instance, of "The cure of one Master Andrew Fones, a merchant of London, which, being in a ship at the sea was set upon by the Flushingers, in which fight he was very dangerously wounded with a gunshot." There is "The cure of one Henry Rhodes, one of the waiters at the Custom House, he being upon the river of Thames a skirmishing with his peece, and by reason the peece had certain flaws in it, did breake into many peeces, and made a great wound upon his chin, and carried away a good part of the manduble and the teeth withall; moreover it did rend his hand greatly; all which I cured without maime or deformitie." There is "An observation for the cure of the master of a Hoy that had both his legs fractured and broken into many peeces with an iron bullet, shot out of a great basse or harquebusse of crocke at the sea by a Pyrat or sea rover." These few titles will give you an idea of Clowes's clinical cases. The importance which attaches to them, and the reason why they constitute a distinct advance in the science of surgery, is that the author gives his actual experiences and tells us what he did to his patients, whereas at that period the tendency was to write endless commentaries on ancient writers, to whose every dictum the blindest and most unreasoning respect was paid.

PETER LOWE.

Contemporary with Clowes was a most interesting character—Maister Peter Lowe—who was born in Scotland about 1550, and lived some sixty or sixty-five years, reaching well into the seventeenth century. Like many of his countrymen, he went to France when very young, where he lived for some say ten, some twenty, years. Then he returned to Glasgow, where he lived and died a citizen of much renown, having obtained in 1599 from King James the Sixth a charter for the Faculty of Physi-

cians and Surgeons of Glasgow, which he thus founded. A few years ago Dr. Finlayson published a most charming account of Maister Peter.

His most important work is termed *A Discourse of the whole art of Chirurgery, compiled by Peter Lowe, Scottishman, Doctor in the Faculty of Chirurgerie at Paris, and ordinary Chyrurgion to the French King and Navarre.* The first edition dated from 1597, and is one of the earliest, if not the very earliest, work embracing the whole art of surgery published in English. It is clear that Lowe must have seen a good deal of military service abroad, being "Chirurgion Major to the Spanish regiments two years at Paris and since that time following the King of France, my maister in the warrs." In his day, as we have seen, the surgical world was still greatly exercised about gunshot wounds and burning by gunpowder, as it was believed that they were injuries of quite a peculiar and very poisonous character. Lowe, however, treats of them with great good sense. Thus: "*Of Wounds done by Gunshot.*—These wounds come indifferently to all parts of our body whereof there are divers opinions; some think that there is a venenosity in the powder and burning in the bullet, which is false, for the things whereof the powder is ordinarily made, as Brimstone, Saltpeter, coales of divers sorts of trees, Water, Wine and Aquavitæ, have no venenosity in them; likewise there is no burning in the bullet, for if the bullet of lead being shot a great way should burne, through heat would be melted itself. I have cured divers within these thirty yeares of divers nations which have followed the warres in Fraunce and other countries, in the which I have found no more difficulty than in any other contused wounds." Here, again, we have a most important advance made by a military surgeon, for only those who are acquainted with the medical literature of Lowe's time can understand the ridiculous views then held about gunshot wounds, and the dreadful consequences to the patients which followed from them.

We have seen that Paré lived between 1517 and 1590, and that Peter Lowe was in France between 1570 and 1580; consequently, he probably learnt all about the ligature for the arrest of hæmorrhage. When treating of amputations he describes the whole process of the operation up to the removal of the limb. Then he says: "One of the Assisters shall put the extreamities of his fingers on the great vains and arteries to stay them from bleeding till the Chyrurgion either knit or cauterise them one after another. Where there is putrefaction we stay the flux of blood by Cauters actuals, and where there is no putrefaction, malignitie nor humour venomous we use the legator." He narrates the case of a certain valiant Captain Boyle, of the Spanish troops, whom he, in the capacity of Chyrurgion-Major to the regiment, was summoned to treat for an "aneurisme on the right side of his cragge." Lowe ordered it to be let alone, "but the captain sent for an ignorant Barbor who did open the swelling with a Launcet, which being done the spirit and bloud came forth with such violence that the Captain died in fewe howers after." Having duly castigated the Ignorants who do such things, Lowe observes that his treatment for such cases is first to draw blood in both arms, and then to apply on the tumor "Rec, Pulveris substillissimi boli arminici, sanguis draconis, myrtilorum, lapidis calaminaris in aceto extincti, absinthii ad

unc. cum cerato refrigerantis Galeni quantum sufficit, fiat unguentum." Curious to note how, even in men of distinct ability like Lowe, a complete ignorance of pathology dragged them into the perpetration of the silliest empiricism.

WOODALL'S "VIATICUM."

In 1628 appeared the first work in England specially devoted to military and naval surgery. Some eleven years later a second edition appeared, and this is its title: *Viaticum, being the Pathway to the Surgeon's Chest, containing chirurgical instructions for the younger sort of surgeons imployed in the service of His Majestie or for the Common-Wealth upon any occasion whatsoever, intended for the better curing of wounds made by Gunshot*, by John Woodall. A perusal of the *Viaticum* shows that Woodall was a very practical surgeon and an eminently religious man, and the way in which he mixes up pills and piety is sometimes very diverting. After some excellent general advice to the surgeon s mate, including a warning against "being given and dedicated to the Pot and Tobacco-pipe in an unreasonable measure,"—he enumerates the instruments for the Surgeon's Chest, including among others Catlings, Rasours, Trapans, Trafine, Lavatories, Cauterising Irons, Storks' bills, Ravens' bills, Crowes' bills, Terebellum, Probes or flamules, Glister Sirings and (what would have utterly damned his book in the present day) "one bundle of small German instruments." Then comes a list of medicines under the heading Unguentum, Aqua, Sol, Oleum, Chemicall Oyles, Syrups, Conserva, Electuriæ, and so on, winding up with a list of the Simples, and of the Herbs and Roots most fit to be carried. A long and careful description of the uses of the instruments and drugs follows, and then come chapters on wounds, apostumes, fractures, dislocations, amputation, scurvy, the plague, gangrene, and other topics. He observes that the cauterising irons had gone somewhat out of fashion, and he did not use them much himself "because of the feare they put the Patient into, and for speech of people who are ready to scandalise an Artist upon each occasion." In amputation, moreover, they are "now wholly forborne for reasons aforesaid, and for that a more pleasant course is known better for the patient and the Artist by making a ligature upon the veine, wound or artery, which is the binding of each end thereof, being first caught and holden with some fit instrument, and tied with a sure and strong thread."

Woodall advances the cure of wounds a distinct step, once more putting us under an obligation to the soldier-surgeon. This he does by sharply attacking all through his works the inordinate and meddlesome use of strong caustics. He says that he had seen men lamed by the needless use of caustic medicines, even in slight wounds to which if an old wife had only applied her one salve for all sores, no such thing had happened. "They will not see a wound incarne and red and good flesh to grow, but straight they slander it of pride, and call it proud flesh, like their owne; and then must at the fairest Precipitate or Vitriale burnt goe to work, yea, though the Patient be lame for it, or at the least the griefe put back again."

RICHARD WISEMAN.

I wish I had time to give you a proper account of the adventurous life of Richard Wiseman, who has been termed the Father of English Surgery, and that not without reason. Born in 1620, dying in 1676, he lived in the time of Charles the First, of the Commonwealth, and of Charles the Second. He was a naval surgeon to begin with, serving in the early part of his life in the Dutch navy. Being, however, a devoted Royalist he served with the armies of Charles the First, and after his death went into exile with his son in France. He was present at the battle of Worcester, where he was taken prisoner, and afterwards confined in Lambeth House for awhile. During the Commonwealth he was naturally under a cloud, and even went off for three years to serve in the Spanish navy. At the restoration the King did not forget his old surgeon, who had done and suffered so much in his service, but appointed him his surgeon-in-ordinary, and afterwards serjeant-surgeon. The first edition of his work, printed in 1672, is quite a small book, and is entitled *A Treatise of Wounds*, but it afterwards expanded into a very large volume.

Nothing reveals a man like his own words, and so in trying to give you an idea of these old worthies I have let them tell their own stories. Wiseman believed in the need for giving stimulants to a man who was in the habit of taking them, if that man was in a dire strait. After describing the parlos case of a certain patient, it seems that the "man swooned and complained that he could not live without wine. I complied with his desire; he drank again as he pleased, his sickness went off, his wound digested, and he cured. This I have often seen in some of our Dunkirkers at sea, who drank extraordinarily, and were full of drink in our sea fights. I could scarce ever cure them without allowing them wine, and thereby their spirits were kept up, and I had the liberty to bleed them as I thought fit." From this it is clear that the old saying about Dutch courage has a distinct origin in fact. But if the unhappy Batavians were liable to be bled at once by the lance of the enemy and the lancet of the surgeon, one can hardly wonder at their taking something to keep their spirits up.

When speaking of gunshot wounds, he insists upon the bullet being searched for and extracted at once. "The part is at first dressing, with what diligence you can, to be cleared of all such Foreign Bodies as have made violent Intrusion into it, while the patient is warm with the heat of Battel, and the wound fresh and very little altered by either Air or Accidents, so that less pain must necessarily follow upon the extraction. In the *Armada Naval de Dunquerque*, where we Chirurgeons were oft employed in this Service, we after every fight went together visiting one another's wounded men. Amongst us it was thought a great shame if any of this work of Extraction was there to be done. It hath been the cause of the death of many a brave Souldier, and every Battel produces instances of it, to the discredit of our profession." This is good surgery and straight talk. I think it must have been a fine spectacle to have seen these rough old surgeons, with their limited knowledge and their

miserable means of treatment, walking round to see each other's patients and learning how best to mend their mistakes.

He has a chapter entirely devoted to a great case of a fracture made by a splinter. The patient had his arm badly smashed above the elbow, and ought to have had it amputated; but a sudden cry of fire stopped this. "I hastily clapt a dressing upon his wound and rouled it up, leaving his arm in the other hand to support it, and endeavoured to get up out of the hold as the others did, I verily believing I should never dress him or any of them more. But our men bravely quitted themselves of the Fire-ship by cutting the Sprizil Tackle off with their Hatchets (which they wore during fight sticking in their Shashes); we were freed of the fire, and by our hoisting up the top sails got free of our Enemy. Now, I was at a loss what to do with this man, who lay not far off complaining of his arm. I would have cut off his arm presently with a Razor (the Bone being shattered there needed no Saw); but this man would not suffer me to dress the arm: he cryed 'it was already drest.' The Fight over, we got into the next Port; I caused presently the Mariner's Bed to be set up (which was four pieces of wood nailed together and corded, and a Bear's skin laid upon it); this was fastened between two Guns to the Carriages." Wiseman then set hard to work to save this unfortunate mariner's arm; but "when it came to my turn to be visited by my brother Chirurgeons of our Squadron, they did not dislike the wound nor my way of dressing (for we, being used to see one another's Patients, had all much one way of dressing); but they laught at the excuse I made for not cutting off his arm, and doubted I should yet be forced to do it. But at the end of two months there was in this Patient a strong callus, filling up the void place of the lost Bone at least two inches, with little or no shortening of the arm." Well done, Wiseman!

BARON LARREY.

Up till the time of the French Revolution it is clear that military surgeons were not men of much importance, and probably had very little influence, if any, in the conduct of campaigns. But in the latter part of last century war was made on a scale which was never known before, and was made also with a rapidity and a precision quite unprecedented. Moreover, the science and art of surgery had been rescued from quackery, and surgeons in actual practice were able to be of great and real service to the wounded. As a result of the vast masses of men that were hurled against each other, the number of wounded after a big battle amounted to thousands, and civilization had so far advanced that it was imperative that immediate help should be given to them. So that about this time the military surgeon really became an important officer in warfare, and began to have his rank and pay well defined, and his merits (up to a certain point) recognized.

In 1776, near the Pyrenees, was born Jean Dominique Larrey, the Chirurgien-en-Chef de la Grande Armée, the friend and body surgeon of Napoleon, the greatest military surgeon that ever lived. He studied at the medical school of Toulouse, and in 1792 joined the headquarters of

the Republican Army of the Rhine under Custine. Now, the ambulances of these days were obliged to remain about a league from the army, and the wounded were only picked up after the fighting was done. General Custine was a man who moved his troops very rapidly, which made matters worse for the wounded. This greatly affected Larrey, who set to work and devised a new ambulance hung on springs, and combining great strength with lightness. Such carriages were termed *ambulances volantes*. They could keep up with the advanced guard of the army with the speed of flying artillery, and they carried off the wounded almost as they fell. Larrey had early perceived the enormous advantage a wounded man got by having his fracture set or his bleeding stopped as rapidly as possible, and by then getting a roof over his head before night set in. General Beauharnais, in a despatch to the Convention, made special mention of "Surgeon-Major Larrey and his comrades with flying ambulances, whose indefatigable care in the healing of the wounded has diminished those afflicting results to humanity which have generally been inseparable from days of victory, and has essentially served the cause of humanity itself in preserving the brave defenders of our country." The staff of a flying ambulance was about 340 in number. For each division there were four heavy carriages and twelve light ones. Some had two and others four wheels, and they were furnished with mattresses. In Napoleon's Italian campaigns they came greatly to the fore, and the great man displayed a lively interest in them, reviewing them and causing them to manœuvre before him just as if they were on a battle field. After one of these inspections he said to Larrey: "Your work is one of the most happy conceptions of our age. It will suffice for your reputation."

When Napoleon undertook his Egyptian campaign, Larrey proceeded to Toulon to organize the medical staff. So readily did professional men respond to the call made by him that he soon was able to reckon on 800 well qualified surgeons, of whom many had served in the army of Italy, and these were in addition to the medical officers actually attached to regiments. This, I think, shows the value that the king of commanders set upon the health of his troops, and the trouble and expense which he was prepared to face in order to maintain it—a great contrast to the miserable way of dealing with this subject, which has too long been the fashion with our military rulers. Not long after the landing at Alexandria a certain General Figuieres was severely wounded. By able treatment he recovered, and in gratitude for the preservation of his life he asked Napoleon to accept a valuable Damascus sword. "Yes," said the latter, "I accept it in order to make a present of it to the Surgeon-in-Chief, by whose exertions your life has been spared." Upon the sword was engraved the words Aboukir and Larrey, and the surgeon had it till the fatal day of Waterloo, when the Prussians robbed him of it. Some months after the occupation of Egypt a terrible revolt took place in Cairo by fanatical Turks. Utterly regardless of anything except how to get at Frenchmen to murder them, they attacked the hospital, which was crowded with sick and wounded soldiers, but the doctors valiantly defended their patients, and two staff-surgeons, Roussel and Monjin, were killed, while Larrey nearly shared the same fate.

At one period there was a total dearth of meat, and Larrey had nothing wherewith to make even a drop of bouillon for his patients. He ordered camels' meat to be used for this purpose, and, when that fell short, he used up the horses. Years afterwards, in the second campaign against Austria, the Imperial Guard and several other corps were crowded together in the island of Lobau in the midst of the Danube, which Napoleon was endeavoring to cross. The days were roasting, and the nights icy cold, and provisions became so scarce that Larrey's patients were in danger of starvation. Without more ado he impounded certain officers' horses and had them slaughtered and employed as food. As there was a lack of kettles, he employed the cuirasses of those who had been killed, and made his horse flesh soup and stews in them. Certain generals made bitter complaint to the Emperor of Larrey's proceedings, who summoned the Surgeon-in-Chief, and in the presence of his staff demanded an explanation with a severe expression of countenance. "What!" he said, "have you on your own responsibility disposed of the horses of the officers in order to give soup to your wounded?" "Yes," answered Larrey. He added no more, but soon afterwards he heard of his promotion to the rank of Baron of the Empire.

One of the most appalling retreats, next to that from Moscow, was Napoleon's retreat from the invincible walls of St. Jean d'Acre through Jaffa. There is no doubt that at that place a considerable number of patients sick of the plague were quietly put out of their misery by opium. Alison says 60; Sir Robert Wilson says 580. The retreat had to go on, the Turks were only an hour's march behind, and nothing but a cruel death awaited these unfortunates, so that whether this were a justifiable deed or not may well give ground for argument. But, as Alison says: "History must record with admiration the answer of the French chief of the medical staff when the proposal was made by Napoleon to him: 'My vocation is to prolong life, and not to extinguish it.'"

In those days means of transport were so inferior, and the necessity for removing hopelessly damaged limbs as soon as possible after the injury so imperative, that amputations were performed on the field of battle while it was still raging, and amid showers of bullets. During the battle produced by the landing of the English in Aboukir Bay, General Silly had his knee crushed by a bullet. Larrey saw that unless the leg were promptly amputated the case would prove fatal, and, the General giving his consent, the operation was performed in the space of three minutes under the enemy's fire. Just then the English cavalry came upon them. "I had scarcely time," said Larrey, "to place the wounded officer on my shoulders and to carry him rapidly away towards our army, which was in full retreat. I spied a series of ditches, some of them hedged with caper bushes, across which I passed, while the enemy, owing to the ground being so cut up, had to go by a more circuitous route. Thus I had the happiness to reach the rearguard of our army before this corps of dragoons. At length I arrived at Alexandria with this honorably wounded officer, where I completed his cure." We must all agree that these were a pair of heroes.

As may be imagined, the awful retreat from Moscow called into play all Larrey's resources, and many an interesting story could be told of his

efforts. Think of the awful battle of the Borodino, where under Larrey's own direction 200 amputations were performed, were there were neither couches nor blankets nor covering of any kind, and where the food consisted of horseflesh, cabbage stalks, and a few potatoes; think of cold so intense that the instruments requisite for the operations too often tumbled from the powerless hands of the French surgeons. Think of the savage Cossacks, hovering about all the while, and waiting their chance to kill the surgeon and the wounded man equally with the combatant. Then came the passage of the Beresina. Take an incident of it. Among the wounded was General Zayonchek, who was over 60 years of age. His knee was crushed, and without amputation the saving of his life was impossible. It was performed under the enemy's fire, and amid thick falling snow. There was no shelter except a cloak, which two officers held over him while the operation was being performed; but the surgeons did their work with such coolness and dexterity that the old general survived, and died fourteen years afterwards Viceroy of Poland. Larrey succeeded in getting over the Beresina with the Imperial Guard, but discovered that the requisites for the sick and wounded had been left on the other side. At once he recrossed the river, only to find himself in the midst of a furious struggling crowd. He was on the point of being crushed to death when providentially the soldiers recognized him. No sooner did they do so than they carried him across the river in their arms, with the cry, "Let us save him who saved us!" and forgot their own safety in their desire to preserve the man whose tender kindness they had so often experienced.

Following his adored master through victory and defeat, Larrey at last stood at night on the field of Waterloo alone, except for some medical officers and the wounded who lay groaning around them. Down upon them came a squadron of Prussian lancers. Expecting no quarter, he fired his pistols at them and galloped away. They shot his horse and sabred him as he lay on the ground. Leaving him apparently dead they went off. But he recovered his senses, and tried to crawl by cross-roads into France. Again he was seized by another detachment of Prussian cavalry. They robbed him promptly of all he possessed, and took him before a superior officer, who ordered him to be shot. What a reward from a soldier to one whose life had been passed in succouring soldiers! About a quarter of an hour before the sentence was to be carried out, a surgeon-major recognized Larrey. He had attended with deep interest a course of lectures which Larrey had delivered in Berlin six years previously. The prisoner was brought before Bulow, and finally presented to Blücher, whose son in the Austrian campaign had been badly wounded and captured by the French, and who owed his life to Larrey's exertions.

Larrey's honorable and glorious life terminated in 1842. Napoleon, when he made his will at St. Helena, wrote in it: "I bequeath to the Surgeon-in-Chief of the French army, Larrey, 100,000 francs. He is the most virtuous man I have ever known." From Napoleon's lips the words of free, spontaneous, ungrudging praise such as this rarely fell.

PESTILENCE MORE DEADLY THAN THE SWORD.

In the middle of last century, while surgery had distinctly improved, the gross neglect of the Government and the pig-headed obstinacy of the generals was such that our unfortunate soldiers and sailors were hardly any better off than they were in the days of Paré. It has been maintained that Smollett, in the appalling picture of naval life as witnessed in the miserable expedition to Carthagena which he drew in *Roderick Random*, and which is known to have been the record of his own experience as a surgeon's mate, grossly exaggerated the evils thereof. I do not believe this. Look at the awful and unsuccessful expedition to Porto Bello in 1726, when nearly the whole of the crews of the ships were destroyed by fever three times over; where 2 admirals, 10 captains, 50 lieutenants, and about 3,000 to 4,000 inferior officers and men perished without striking a blow. Look at the taking of Havannah in 1762. The Earl of Albemarle took with him in the fleet 11,000 soldiers. Between June and the middle of October, when Cuba was ours, we had lost 560 men by wounds, and 4,708 by sickness. At the end of the Seven Years' War, a statement was drawn up in the *Annual Register* for 1763 from which it appeared that in all the naval battles of that war there were but 1,512 sailors and marines killed, while 133,738 had died of disease or were "missing." Look even at the end of last century, and consider the wretched and disgraceful Walcheren campaign. Never did our poor soldiers fight more gallantly than in that campaign, only to perish beside Dutch ditches and canals fron fever and ague and dysentery.

MILITARY COURAGE.

As we have just seen, Baron Larrey's whole life shows that while absolutely devoted to the work of his profession, he displayed a cool courage on the field of battle not less heroic than the more dazzling deeds of his fellow combatant officers. Not less does it mark the military surgeon of the present day. Have you ever heard of Surgeon Thompson, who during the Crimean war, when the army marched off after the battle of the Alma, volunteered, with his servant, John McGrath, to remain behind on the open field with 500 terribly wounded Russians, and passed two awful days and nights—these two Englishmen alone—among foreign foes—some dead, some dying, and none able to raise a hand to help themselves? Have you ever heard of Assistant-Surgeon Wolseley, of the 20th Regiment, who, at the battle of Inkerman, had quietly established his field hospital in that awful place, the Sandbag Battery? When the 150 men, who were all that remained of its defenders, were forced to desert it, about 100 of them fell back in one direction, and in that they found at 30 paces from them, a Russian battalion blocking their path. There was not a combatant officer left, so the Assistant-Surgeon took command. He had not even a sword with him, but laying hold of a firelock with a fixed bayonet on it, he spoke a few words to the men within range of his voice, and told them that what they now had to fight for was not

victory, but life. Then he gave them the word of command: "Fix bayonets, charge, and keep up the hill." The soldiers answered him with a burst of hurrahs, sprang forward to the charge, and the next instant were tearing through the thickest of the Russians. One half of these reached the other side alive. Have you ever heard of Surgeon Landon, who was shot through the spine while attending to the wounded on Majuba Hill? His legs were paralyzed, but he caused himself to be propped up, and continued his merciful work till his strength ebbed away. When unable for more he quietly said: "I am dying; do what you can for the wounded." Have you ever heard of Surgeon-Captain Whitchurch, who gained the Victoria Cross at the beleaguering of Chrital for the most determined courage in endeavouring to save the life of Major Bair? Yes you have, for last year at Carlisle you gave him the gold medal of the Association, the highest honour which our Association can give to its members. There died the other day a certain Surgeon-General Reade, C.B., V.C. During the siege of Delhi, while attending to the wounded at the end of one of the streets of the city, a party of rebels advanced from the direction of the bank, and having established themselves in the houses in the street commenced firing from the roofs. The wounded were thus in very great danger, and would have fallen into the hands of the enemy had not Surgeon Reade drawn his sword and, calling upon a few soldiers who were near to follow, succeeded under a very heavy fire in dislodging the rebels from their position. Surgeon Reade's party consisted of about ten in all, of whom two were killed and five or six wounded. Ladies and gentlemen, Surgeon Reade was a Canadian, and the son of a colonel of the Canadian Militia. Of the 118 wearers of the Victoria Cross 14 are surgeons, nearly 12 per cent. of the whole number. They stand in the proportion of 9½ per cent. of all the officers of the army, so, at all events, they have contributed not less than their fair share of the deeds of valour which alone can win that glorious distinction.

THE ARMY MEDICAL SERVICE TO-DAY.

Ladies and Gentlemen,—I have diverged from the beaten track common to the givers of addresses such as this to tell you what splendid men have been the military and naval surgeons of old, who not merely did their duty nobly and courageously as such, but who have in their day enormously contributed to the advance of the art of surgery. I have done it with a purpose; with the hope of attracting more strongly than ever the sympathy and help of this great Association to their military brethren in a critical juncture of their history. To-day her Majesty's Government cannot induce candidates to come forward for the medical service of the Queen's army. And why? Because it has persistently treated the Army Medical Department meanly and shabbily. To-day the Government of India can secure the services of the pick of our newly-fledged doctors for its army. And why? Because it has always treated the Indian Medical Service liberally and generously. I am not going to enter into the reasons for this; I desire merely to emphasise one point, namely, that money is not at the bottom of this difficulty. The soldier-

surgeons of to-day are the same men now that they were in the days of William Clowes, who winds up his book, as I shall my address, with these verses:

When valiant Mars, with brave and warlike band,
In foughten field with sword and shield doth stand,
May there be midst a surgeon that is good,
To salve your wounds and eke to stay your blood.

To cure you sure he will have watchful eie,
And with such wights he means to live and die,
So that againe you must augment his store,
And having this he will request no more.

NOTES AND COMMENTS.

The Montreal meeting of the British Medical Association was in every respect the most brilliant and successful of the annual gatherings of this body, from the social as well as from the scientific point of view. The fact that this is the first occasion during its 65 years of existence that a meeting has been held outside the limits of the United Kingdom marks its exceptional character, and the lavish hospitality bestowed upon the British members and American guests will long be remembered by them. The admirable arrangements made for their reception and comfort must have entailed great efforts on the part of the various committees, whose courtesy and kindness have been appreciated by so many during the week. Nor should mention be omitted of the considerate thoughtfulness which was shown by members of the Reception Committee in meeting the visitors as they landed at Quebec and Montreal, as each contingent arrived, so that all felt that they had come among friends who were bent on doing everything to make their visit pleasureable. By Monday most of the members had arrived in Montreal, some coming from the Toronto meeting of the British Association, and others, who had arrived in Canada during the previous week, had filled up their time by visits to Quebec, the Saguenay, Toronto, Niagara, and elsewhere.

The dinner given by the President of St. James's Club, on Monday evening, to the officers of the Association and a large number of guests, formed a pleasant prelude to the hospitalities of the week. Amongst the company were the Governor-General of Canada (the Earl of Aberdeen), the Lieutenant-Governor of Quebec (Sir Adolphe Chapleau), Lord Strathcona and Mount Royal, Sir William Hingston, Sir William Van Horne, the Mayor of Montreal, Prof. Ch. Richet of Paris, Sir Walter Foster, M.P.: Mr. C. G. Wheelhouse, Mr. Macnamara, Dr. Barnes, Dr. Saundby, Dr. Dawson Williams, Dr. Parsons, Dr. Stephen Mackenzie, Prof. Adami, Prof. W. Osler, Dr. Leech, Mr. Malcolm Morris, Drs. Keen and Tyson of Philadelphia, Dr. Shattuck of Boston, Dr. Welch of Baltimore. The proceedings were of a most genial and enthusiastic order, the President proposing the toasts of the Queen, the Governor-General and Lieutenant-

Governor, to which the Earl of Aberdeen and Sir Adolphe Chapleau made graceful and appropriate replies. In a speech of much force and eloquence, the Rev. Dr. Barclay proposed the health of Lord Strathcona and Mount Royal, whose recent elevation to the peerage has been warmly welcomed by the people of Montreal, who are indebted to Sir Donald Smith's munificent generosity for so many useful charitable and educational institutions. Dr. Barclay's remarks met with a most enthusiastic reception, and Lord Strathcona's reply was heartily applauded. The Earl of Aberdeen gave the health of Dr. Roddick, which was cordially received, and the company separated.

The service at Christ Church Cathedral at noon on Tuesday was largely attended by members of the Association and the general public. Amongst those present were the Governor-General, Lord Strathcona and Mount Royal, Lord Lister and Dr. Roddick. The service was opened by the singing of the National Anthem, and a most eloquent sermon was delivered by Dr. DuMoulin, Bishop of Niagara, who took as his text Acts x., 38. Referring to the special event of the week, he spoke of the absolute need of the medical profession by the community, of the causes of disease, and the merciful provision established for the relief of the suffering. The Association was happy in meeting in a city like Montreal, where, side by side with ancient institutions for this beneficial object, were the most modern hospitals, founded by the princely munificence of its citizens. The offertory was devoted to the aid of the medical charities.

The general meeting on Tuesday afternoon at the Windsor Hall was, as explained by Dr. Saundby, President of the Council, who took the chair, the adjournment of the meeting held in London in July, when the business of the Association was transacted. He then inducted the President, Dr. T. G. Roddick, into the chair, and the proceedings commenced by the Mayor of Montreal welcoming the Association to Montreal on behalf of its citizens. He trusted that this visit would be a pleasant one, and that on their return to England they would be the means of diffusing a knowledge of the extent and resources of the Dominion, and thus encourage the migration to this country of many who would find ample scope for their energies and add to the prosperity of the land. Sir Adolphe Chapleau, Lieut.-Governor of Quebec, next addressed the meeting in an eloquent speech of welcome, and was followed by the Governor-General (the Earl of Aberdeen), who crowned this welcome by speaking on behalf of the whole Dominion. The various delegates, commencing with Prof. Richet, delegated by the French Government, were then introduced by Prof. Adami; the delegate from Winnipeg reading an invitation from the Province of Manitoba for the Association to visit that city on a future occasion. The invitation was handed to Dr. Saundby, who undertook to lay it before the council of the Association. The President then delivered his inaugural address, and the proceedings terminated by a hearty vote of thanks to Dr. Roddick for his address, which was moved by Lord Lister and seconded by Sir James Grant.

The brilliant reception given by the Governor-General at Laval University on Tuesday evening afforded the members of the Association the opportunity of acquainting themselves with this famous institution. After the reception a meeting was held in the large hall, presided over by Dr. Rottot, Dean of the Medical Faculty, when Prof. Ch. Richet, the delegate of the French Government and of the Faculty of Medicine of Paris, delivered an address upon "The Work of Pasteur and the Modern Conception of Medicine." It is hardly possible to condense this brilliant and eloquent plea for the recognition of the services rendered to medicine by science. The work of Pasteur, he said, was a convincing demonstration of the fact that it is by experimental science alone that medicine has made and can make any progress. He traced the steps of Pasteur's life-work, commencing with his early analysis by polarisation of the two forms of tartaric acid which led to his memorable demonstration of the true nature of fermentation, which, as Prof. Richet said, opened a new world to science. Then came his series of experiments disproving the doctrine of spontaneous generation, and conclusively showing that organic fluids undergo no change until living germs gain entrance into them. This was the first step to the establishment of the microbic theory of disease, proved in the first instance by Pasteur's research in 1867 on silk-worm disease, and importing into pathology a fact which has revolutionized medicine. Nor did Pasteur's work stop here: his culminating discovery of the principle of vaccination is known to all. "Fermentation, "infection, contagion, vaccination; here in four words we learn the work "of Pasteur. What more need I say? Do not these four words possess, "in their simplicity, unequalled eloquence?" Thus did Prof. Richet sum up the debt which medicine owes to Pasteur's experimental researches; extended as this has been through Lister by the victories of antiseptic surgery, and by Pasteur himself in his discovery of the treatment of hydrophobia. Prof. Richet continued to show the close connection between science and medicine, which is daily demonstrated, by citing certain examples of new discoveries that could not have been made had reliance been placed on clinical observations alone, such as treatment by animal extracts (e.g., thyroid treatment of cretinism), the Rœntgen Rays, pancreatic diabetes, serum therapeutics, and concluded an address, which throughout was characterized by remarkable lucidity and eloquence, by pointing out how much still remains to be done in the search after truth by men of science for the perfection of medicine.

On Tuesday evening, at the Windsor Hotel, a banquet was given to Lord Lister by the members of the Montreal Medico-Chirurgical Society, the president of the Society, Dr. Geo. Williams, occupying the chair. The Governor-General sat on the right of the chair, the guest of the evening on the left, and amongst those present were Sir William Hingston, Sir James Grant, Prof. Richet, Dr. Roddick, Mr. C. Heath, Dr. Mitchell Banks and Dr. Saundby. The chairman, in proposing the toast of the evening, presented Lord Lister with the following address:—

To the Right Honorable the Lord Lister.

My Lord,—The members of the Montreal Medico-Chirurgical Society rejoice in the opportunity afforded them of congratulating your Lordship on having been selected by the best Sovereign that ever graced a throne, for the high distinction of the peerage. No one in the medical profession was more worthy. Through a long period of years you have, through methods well nigh perfect, sought after truth with an intelligence and discernment given to few, with a patience and assiduity and, above all with a truthfulness and modesty that cannot but exert a salutary influence on all searchers for scientific truth, and with a success unsurpassed in the history of modern medicine.

These purely scientific researches of your earlier years were the foundation on which at a later period you built the magnificent structure of antisepsis, which places you on the scroll of fame with Harvey, Hunter, Jenner, Simpson and Pasteur. In advancing scientific and practical surgery you have advanced every branch of the healing art, and by investigations which have led you to the detection of the causes of disease you have brought us to a knowledge of the hindrances to the healing process. Henceforth present and future generations may point to your Lordship with pride as the man who has brought relief from suffering in every quarter of the globe. May your years be many, and may they be filled to repletion with the happiness which is born of having done nobly and well.

Lord Lister, in reply, said he was much impressed by the enthusiasm with which the toast had been received, and he should cherish the address he had been presented with as long as he lived. He thanked them deeply for the great honor they had conferred upon him.

The real work of the meeting began on Wednesday morning, when each of the eleven sections assembled in the commodious class-room of McGill University and the closely adjacent Diocesan, Wesleyan and Presbyterian Colleges. No more ideal site for a scientific congress could well be found; and the arrangements were so excellent that no difficulty at all was experienced in finding the location of any section. Nor should mention be omitted of the very excellent and abundant accommodation set apart for reading, writing, smoking and other rooms. The attendance at each of the various sections was very good; and as will be seen from the reports, many subjects of much interest were discussed. In most sections the Presidents delivered addresses, some of which might even have formed a basis for discussion. Interesting and able reviews of the rise and progress of medicine, therapeutics, pathology and dermatology were then given respectively by Stephen Mackenzie, Dr. Lecch, Mr. Watson Cheyne and Mr. Malcolm Morris in the sections over which they presided. In the Section of Surgery, Mr. Christopher Heath, with characteristic candor, commented upon the exacting demands of pure science upon the time of the modern student, to the neglect of the important practical training in his life-pursuit. In the Section of Psychology a most interesting and philosophical study of Mental Evolution in Man was given by Dr. Bucke, which, we venture to think, will be widely appreciated.

Amongst the subjects debated on Wednesday, that of rheumatoid arthritis in the Section of Medicine was shared in by a large number of speakers. The question was discussed mainly from the etiologic l standpoint. the views of the opener, Dr. Stewart, in support of an infective agent

being combated by many who found more evidence in favor of the nervous origin of the disease. A thoroughly practical and instructive debate on the treatment of insomnia in the Section of Therapeutics and Pharmacology was well sustained, there being a very gratifying unanimity in deprecating resort to hypnotics unless compelled. In Surgery, the topic of appendicitis afforded scope for eliciting experiences of many surgeons, but, as was to be expected, the necessity for operative treatment in many cases was variously advocated or deprecated. In the Section of Public Medicine the important topic of municipal measures in dealing with certain infective diseases was discussed, and the remarks of Dr. Handford advocating education and persuasion rather than compulsion deserve attention. In the Section of Obstetrics and Gynæcology the vomiting of pregnancy evoked many valuable practical experiences, and in that of Anatomy and Physiology, the debate on the Teaching of Anatomy, shared in by such competent authorities as Prof. Alex. Macalister, Prof. M. Foster and Dr. Shephard was animated. The paramount importance of practical work in the dissecting room was insisted on by all; but it would have been gratifying had a like unanimity prevailed as to the harmfulness of too much tutorial instruction in a subject best learned by personal practical work.

At the close of the general meeting held in the Windsor Hall on Wednesday afternoon, and after the vote of thanks to Dr. Osler for his admirable address in medicine had been enthusiastically carried on the motion of Dr. Stephen Mackenzie, seconded by Dr. Jacobi, the platform was occupied by members of Convocation of McGill University, with the Chancellor (Lord Strathcona and Mount Royal) presiding, having on his right the Governor-General, who is the visitor to the University, on his left Dr. Craik, the dean of the Faculty of Medicine. The occasion for this meeting of Convocation was to confer the honorary degree of LL.D. on certain distinguished members of the Association. After the proceedings had been opened by prayer by the Rev D. G. Clark Murray, the Chancellor addressed the meeting and called upon the Dean to introduce the gentlemen to receive the degrees. This Dr. Craik proceeded to do happily and tersely reciting the claims to distinction of each of the eminent men who in turn ascended the platform to receive his degree at the hands of the Chancellor. The Right Hon. Lord Lister, Prof. Ch. Richet, Sir Walter Foster, Sir William Turner, Dr. Henry Barnes, Prof. Michael Foster, Dr. W. H. Gastall, Mr. Christopher Heath, Dr. Alex. Macalister, Dr. R. Saundby and Mr. C. G. Wheelhouse having thus been duly received into the University, Lord Lister, Prof. Richet and Prof. Michael Foster spoke on behalf of the recipients, all expressing their admiration of the splendid teaching resources of the University and the hopes for its future prosperity and greatness. The Chancellor and the Governor-General having made a few appropriate and graceful remarks, this interesting ceremony closed with the benediction.

The subjects for discussion in the various sections on Thursday were of a thoroughly practical character, and were shared in by numerous speak-

ers. Dr. Saundby's remarks in the Section of Medicine on the Dietetic Treatment of Diabetes were received with much attention, and his method of systematically and carefully regulating the amount of carbohydrate which can be safely given was approved on all sides. Dr. Jacobi expressed a strong opinion in favor of milk as an essential in the diabetic diet. In the Section of Surgery, a debate took place on the Treatment of Cancer by Kraske's Operation, there being a fair consensus of opinion as to its value. At the close of the discussion the President (Mr. Heath) read a letter from Dr. Kraske on the subject. In Public Medicine the subject of Quarantines was treated in an exhaustive manner by Drs. Montizambert, Wyman and Duncan, and gave rise to an interesting debate. The Sections on Therapeutics and Dermatology held a conjoined sitting for the purpose of discussing the treatment of syphilis, which excited considerable attention. A very thorough view of serum diagnosis was afforded by the debate introduced by Prof. Adami in the Section of Pathology and Bacteriology; laryngeal paralysis was the theme in the Section of Laryngology, and that of Anæsthetics in the Section of Anatomy and Physiology. This latter debate, introduced by the President, Dr. A. Walker, was of a decidedly controversial character; the results of the Hyderabad Commission being brought under notice by Col. Lawrie, I.M.S.

The Annual Dinner of the Association took place Thursday night, at the Windsor Hotel. The dining hall had been most tastefully decorated by flags and banners, the latter bearing the names of the provinces of the Dominion, as well as the initials B. M. A. The President, Dr. Roddick, was supported by a distinguished company, including the Governor-General, the Chief Justice, Lord Strathcona and Mount Royal, the Mayor of Montreal, Lord Lister, Prof. Richet, Sir William Hingston, Sir James Grant, Sir William Foster, the Rev. S. Barclay, Prof. Michael Foster, Mr. Wheelhouse and many others. About 500 attended the banquet. The toast list was a lengthy one, and the speeches of a high order —one of those most appreciated being that given by the Rev. Dr. Barclay, who with Surg. Lt.-Col. Lawrie was called upon to respond to the toast of the Army, Navy and Auxiliary Forces. The regrettable absence from indisposition of the Lieutenant-Governor of Quebec deprived the company of again hearing his eloquence. A pleasing incident was the presentation of an address to Lord Lister by the members of the Medical Faculty of the Universities of Dalhousie, Halifax, to which his Lordship made a graceful reply.

A most delightful break in the day's proceedings was enjoyed by a large party of the members of the Association and others who were entertained on Thursday at luncheon on the Mountain by the Mayor and Aldermen of Montreal. The day was all that could be desired, a fresh breeze tempering the heat of the sun, and the clearness of the atmosphere permitting the visitors to have the full benefit of the magnificent and extensive view from the "Mountain outlook" where the luncheon was served. After the meal was done full justice to, the Mayor gave the

toast of the "Queen," which was duly honored; he then proposed that of the British Medical Association, which was supported by Alderman Prefontaine and Dr. Lamarche. Lord Lister and Mr. Wheelhouse responded on behalf of the Association. The health of Lord Mount Royal was proposed by the Mayor and enthusiastically received.

There could be no better testimony to the esteem and affection in which Lord Strathcona and Mount Royal is held than the manner in which the rooms of his splendid mansion in Dorchester Street were thronged at the reception given by him on Wednesday evening. The guests were received by his Lordship and the Hon. Mrs. Howard (in the regrettable absence of Lady Strathcona, through indisposition), and were enabled to admire the exquisitely furnished rooms and the priceless collection of paintings which adorn the walls, whilst a large marquee in the brilliantly illuminated garden was devoted to music, conversation and refreshment.

The garden party in the grounds of the Royal Victoria Hospital on Wednesday afternoon was another of those pleasurable social functions for which the Montreal meeting will long be memorable. Situated amidst exquisite scenery, and not too crowded, a very pleasant afternoon was passed, Miss Lister being the recipient of a handsome basket of flowers presented to her by Lord Mount Royal, one of the generous donors of the hospital and its grounds to the city.

On Thursday afternoon Lord Lister laid the foundation-stone of the Jubilee Nurses' Home in connection with the Montreal General Hospital, in the presence of a large assembly, which included the Governor-General, Lord Strathcona and Mount Royal, Dr. Roldick, the Lord Mayor, and several prominent citizens. Lord Lister was presented with a silver trowel, with which he smoothed over the cement on which the stone was duly lowered. The Lord Bishop of Niagara gave the Benediction, and the company was afterwards shown over the wards by the nurses and the resident staff.

The important question of securing for the Dominion a uniform standard of medical education has been a prominent topic of the week. It was debated at the annual meeting of the Canadian Medical Association on Monday and Tuesday, when also a scheme for inter-provincial registration was discussed and adopted by the provinces of New Brunswick, Quebec, Manitoba and Prince Edward Island. It was also referred to by the President of the British Medical Association in his opening address, and commenting upon this, Lord Lister, in moving the vote of thanks to the President, made some judicious remarks. Lord Lister thought that the great objection to a central examining board was that the examinations would be conducted by those who were ignorant of the curricula of the various schools, and for himself preferred the system obtaining in

England of a central controlling body (the General Medical Council, with power to inspect and visit the various licensing bodies. Any opinion of Lord Lister's must have great weight, although it cannot be forgotten that some twenty years ago the idea of a conjoint Examining Board for England was on the eve of accomplishment, some of the bodies concerned voluntarily consenting to abrogate their right to grant licenses. Theoretically a single and uniform standard for the whole country would seem to be the ideal to be aimed at, all additional qualifications and degrees being regarded as academic distinctions; but it may be, as Lord Lister evidently fears, that the practical working of such a scheme could not be effected without injustice to candidates trained on various methods.

THE LANCET hopes to be able in next regular issue to give some of the original papers, with discussions.

COMMERCIAL NOTES.

SHARP & DOHME.

Sharp & Dohme, of Baltimore and New York, who enjoy such an excellent reputation for their Soluble Hypodermic Tablets, made a fine presentation under the management of Dart & Co., Montreal. They showed a large line of medicinal extracts, solid and powdered ditto, effervescent salts, sugar-coated pills, enteric pills, and Soluble Hypodermic Tablets which dissolve at once in a few drops of water. They have also established a reputation for their Lapactic Pills with their tonic laxative properties, and as is well known their Ergotole does not cause any local irritation when used hypodermically, or nausea when administered by the mouth.

DART & CO.

Messrs. Dart & Co. had a very large exhibit, presented in an exceptionally attractive manner. The whole was very tastefully gotten up and was personally supervised by Mr. Dart, who seemed to be constantly shaking hands with his old friends among the physicians.

They had a very complete display of the antitoxins manufactured by the Paul Paquin Laboratories of St. Louis—being antitoxins for tuberculosis, tetanus, diphtheria, smallpox, puerperal fever, erysipelas, scarlatina and cancer.

It is only a question of time until Dr. Paquin will have just as large a sale in Canada as he now has in the States for these excellent preparations.

Exhibit No 1, made by the H. K. Mulford Company, of Philadelphia, was most attractive. The excellent reputation secured by the products

of this firm merited the courteous treatment extended to them by their visitors. Demonstrations of the superior value of their concentrated antitoxin for diphtheria were of great interest, physicians appreciating the advantages gained in the saving of from six to eight hours in securing results from the administration of the concentrated antitoxin, as well as the decrease in the irritation from the injection and the absence of urticaria and other untoward actions which only follow the use of weak serums. Their extra potent antitoxin, containing one thousand units in each two C.C. or 30 minims of serum, was endorsed by those doctors in attendance. The appreciation given to this firm by the members of the B.M.A. must be very gratifying. The solubility and excellent finish of their tablets, triturates and hypodermics, and the improved antitoxin syringe, were demonstrated to the entire satisfaction of their visitors. Scientific literature disbursed was eagerly sought for. Communications addressed to H. K. Mulford Company, Philadelphia, will secure brochures, etc., on antitoxin treatment.

The exhibit itself was a particularly attractive one, the canopy being made of handsomely carved wood, finished in a delicate combination of cream and gold.

Mr. Mulford himself was present, having the able assistance of Mr. Burton and Mr. McLaughlin. A very large number of physicians had the merits of Mulford's antitoxin demonstrated to them.

BOVRIL.

An extremely interesting exhibit was that made by "Bovril, Limited." They were very fortunate in securing such an excellent position, being on the veritable highway, and as all roads lead to Rome so here did all roads surely lead to Bovril. Mr. F. C. Silcock, the Canadian manager of this great business, attended his display personally, but it was fortunate for him he had two such valuable assistants. He appeared to count nearly the whole visiting list of physicians among his own personal friends, and their booth was constantly surrounded by them. The display was simply excellent, and it is very interesting to note the large number of different ways they make use of the "vital principle of beef."

The main foundation of the exhibit was, of course, Bovril itself—that standard preparation for all sorts and conditions of people which, in such a remarkably short time, Mr. Silcock has introduced throughout the entire country.

Not the least interesting feature was a can of Bovril, one of a number of which Nansen took with him to the North Pole, and on opening it on his return it was found just as fresh and wholesome, in every respect, as on the day it was put up.

Here, also, were all the other preparations of this wonderful concern, all bearing the legend, "Bovril," which is a synonym for only the very best and purest of ingredients. Bovril, Bacon Rations, Lime Juice Nodules, an excellent preventive of scurvy, etc., and will be invaluable in the Klondyke. Bovril Tablets, splendid for bicyclists, etc. Kudos Cocoa Essence and Bovril Wine, made of beef and port, instead of sherry. The whole exhibit reflected a great deal of credit on the originality of Mr. Silcock, and was much appreciated by the visiting members of the Association.

EXHIBITS OF THE DAVIS & LAWRENCE CO., LIMITED, MONTREAL, COMPRISING

The goods of John Wyeth & Bro., Philadelphia,
The J. Ellwood Lee Co., of Conshohocken, Pa., and
The Fellows Medical Mfg. Co., of New York.

The exhibit of Messrs. John Wyeth & Bro., manufacturing chemists of Philadelphia, which is the first display that confronts the visitors to the Victoria Rink, where the Museum in connection with the British Medical Association is held, is one of imposing beauty, and most interesting in every respect. As one enters from Stanley Street, two very handsome and costly mirrored pyramids are stationed, on which divers shapes and styles of exquisite cut-glass bottles filled with different colored pills, Triturates, Fluid Extracts and the other pharmaceutical goods of this concern are placed. Among the specialties which Messrs. John Wyeth & Bro. show may be mentioned their well-known Malt Extract, which is now enjoying an exceptional sale throughout Canada. Although a great many so-called Malt Extracts have been placed on the market in the past few years, we are informed that Wyeth's leads by far in the sale. In conversation with Mr. John J. Howey, the head chemist of the Canadian laboratory, we elicited the fact that the output of this preparation for the first nine months of this year exceeds the total quantity manufactured during the year of 1896.

At one of the side tables two young lady attendants dispensed this firm's preparation of Beef Juice to the visiting physicians. This Beef Juice supplies in a concentrated form a stimulant and restorative, as prompt as alcoholic drinks without leaving any hurtful after effects.

A new Effervescing Salt has been recently placed before the medical profession by Messrs. Wyeth, and a supply of this was on exhibition, and was fully sampled by the physicians. It is called Caf-Acetan, and will prove a valuable addition to the pharmaceutical list.

One of the most wonderful and interesting exhibits of this collection was the display of Ophthalmic Discs, used for the efficient, convenient and extemporaneous treatment of the various diseases of the eye. This display, consisting of nearly one hundred different formulas, attracted marked attention, and many flattering words were said by the profession while examining these goods. They contain all the medicaments ordinarily used in ophthalmic practice, and in compressed form are found much more easy of administration.

Another valuable addition to therapeutics was shown in Wyeth's Effervescing Lithia Tablets for the treatment of sub-acute and chronic rheumatism, and complaints resulting from uric acid. They are claimed to embrace advantages not possessed by any other form of administration. Put up in bottles of 3 and 5 grains. They produce a clear solution and are readily soluble.

A new and what will become a popular preparation with the profession was noticed, and is called Elixir Uterine Sedative Specific, a combination of Viburnum Opulus (Cramp Bark), Piscidia Erythrina (Jamaica Dogwood), Hydrastic Canadensis (Golden Seal), and Pulsatilla (Anemone Pul

satilla), and which is considered almost a specific in the treatment of the various kinds of pain incident to the diseases of the female sexual organs. A preparation which is now being introduced to the Canadian clime is another of Messrs. Wyeth's under the name of Powdered Thyroid Gland, a remedy for obesity and myxœdema. Its success in the United States has been very marked. It is also put up in tablet form, each tablet containing five grains of the thyroid gland of the sheep. In connection with Messrs. Wyeth & Brother's exhibit a very compact and handsome real seal leather hypodermic case was presented to the physicians and was much appreciated by the recipients.

The J. Ellwood Lee Co., of Conshohocken, had a very extensive and beautiful display of medicinal and surgical plasters, absorbent cotton, antiseptic dressings, hospital and physicians' supplies, also a full line of aseptic and cumolized ligatures comprising catgut, silk-worm gut, braided and twisted silk, cable twist, etc.

The two attractive young ladies who were in attendance of this section lent an additional charm to the exhibit, and the number of physicians who availed themselves the pleasure of a visit to this collection was evidence of the interest taken in Messrs. J. Ellwood Lee's goods. The style in which all their goods are put up, and the exceptional quality of all the articles, are alone a guarantee. A noticeable thing in connection with this exhibit was that all their goods were open for inspection, and could be handled by any one, and thoroughly examined. Mr. De La Cour of the home laboratory did the honors of this section, and was indefatigable in his efforts to instruct all callers.

The Fellows Medical Manufacturing Co., of New York, had a very tastefully arranged display of the Compound Syrup of Hypophosphites, and distributed several hundred samples to visiting physicians. The peculiar merits of this preparation has won for itself a world-wide reputation, and it has become so favorably known throughout the world that it is prescribed in pulmonary and other diseases by the profession in every country in the world.

Among the many preparations brought before the British Medical Association in Montreal, much interest was shown in a new formula for a salve or ointment which is absolutely free from grease in any form, thus removing the very strong objections of Koch and Breslauer to this form of dressing, as it hindered complete contact, and absolute contact is necessary before microbian life can be destroyed. Again: Mr. W. Watson Cheyne has shown that some of the ointments in the pharmacopœia are too strong if used of standard strength in some cases,* and advises reducing one-half, or even one-quarter.

It appears as if the lack of benefit from the use of ointments has been owing to causes only recently understood, and hence their disfavor with many physicians.

The ancients had success with ointments said to be composed of some of the ingredients in the formula given us for styra-phenol; and the re-

* *Vide* "Wounds, Ulcers and Abscesses," Cheyne.

sults of some cases have been very satisfactory to those who have tried this new compound before it was given a name to prescribe it by; and we look forward to its further trial with interest, hoping it will prove its claims as a reliable germicide, discutient and anodyne, which its formula would lead us to expect:

℞ Balsam peruferum ..... ℥ vi
" tolutanum ..... ℥ v
Benzoin ..... ℥ p
Styrax ..... aa ℈ i
Olibanum .....
Colophony ..... ℥ ix
Phenol ..... ℥ iii

We found the vapors of this preparation decidedly pleasant and soothing, while heated in Medical Museum exhibit to demonstrate its absence of irritating properties, when inhaled for throat and lung troubles, which styra-phenol claims to benefit.

APENTA.

Close to Bovril was a very fine exhibit of Apenta Water, made by the celebrated Appolinaris Co'y, and being in charge of Mr. Maguire. This product is a bitter water derived pure, and in a perfectly natural condition, from springs situated near Budapest. It belongs to a class of purgative waters, but its action is of a mild and non-irritating character Apenta will become a favorite water for family medicinal use, and in many of the slight derangements of life whereof digestive troubles, biliousness and the like are examples, it will be found serviceable.

We would particularly wish to draw the attention of the physicians and surgeons of Canada to the Lyman Bros. & Co.'s, Limited, Anesthetical Chloroform, in 1 lb. bottles, and Lyman's Anesthetical Ether, in quarter, half and 1 lb. tins. Regarding the ether, they are continually receiving recommendations from the leading medical practitioners from the Atlantic to the Pacific, prominent among which is the following from F. W. Ross, who writes:

"I have now overcome my former prejudice against local manufacturers of ether, and am now using Lyman Bros. & Co.'s ether for operations of all degrees of severity. The after effects are no greater than after any other pure ether."

Regarding Lyman Bros. & Co.'s choloroform, which is being used by most of the leading surgeons in Canada in preference to any other make, Dr. T. G. Johnson, Mayor of Sarnia, who is the leading surgeon in Western Ontario, writes as follows:

"For a number of years I have used no other chloroform than that manufactured by Lyman Bros. & Co., both in surgical and obstetrical practice; and have had, and still have, every reason to be thoroughly satisfied with it."

Again, we have the following from the late J. H. McCollum, who writes as follows as long ago as 1888:

"During the nearly five years in which I held the position of medical superintendent of the Toronto General Hospital I administered to about 1,000 patients annually, and in no case had we fatality from it. It has two very strong recommendations — first, its comparative cheapness; second, the stage of excitement is not nearly as great as with other makes."

The manufacturers would be glad to supply a sample of either chloroform or ether on application from any physician or surgeon, preferably through their local druggist.

There is one thing the LANCET will point out: any statement made by the Lyman Bros. Co. is thoroughly to be relied upon, and will be absolutely true. The manager, Mr. C. McD. Hay, is a gentleman who is particularly well known to both the medical profession and the entire business community of Canada, is a thoroughly progressive Canadian, with extraordinary executive ability, which has endeared him to the professional and business community alike, and consequently anything shipped from this well-known, responsible firm can be thoroughly relied upon.

The house of Frederick Stearns & Co. was founded by Mr. Frederick Stearns, who came to Detroit in 1855 to engage in the drug business, possessing a scientific turn of mind, which has since distinguished him as a traveller and student. Being one of the oldest houses in the United States, its standard pharmaceuticals are used in all parts of the country. So popular has the house become that its preparations are now known in every land, the foreign trade increasing so rapidly as to rival its domestic business.

Frederick Stearns & Co. has always been distinguished for originality in the introduction of improved pharmaceutical products. Among their specialties we note the original Cascara Aromatic, which on account of its activity and pleasant action, together with its agreeable taste, has made it the most popular laxative now employed by the medical profession. The use of this preparation has become so enormous that almost every manufacturing house now has a Cascara Aromatic of its own. The result is that the term Cascara Aromatic has lost its specific meaning, and no longer refers exclusively to the product of Frederick Stearns & Co. The house accordingly recently adopted the fanciful word "Kasagra" as a commmercial signature to distinguish their brand of Cascara Aromatic from those of their competitors. Those wishing the original article should, therefore, specify "Kasagra-Cascara Aromatic" on their prescriptions.

Probably one of the most popular tonics now in use is Stearn's Wine of Cod Liver Oil. This preparation is made from an extract of the fresh natural livers of the cod, and contains those peculiar principles which give to cod liver oil its alterative effect. So extensively is it employed by the medical profession that it bids fair to displace the use of cod liver oil itself as a remedy. Very naturally the manufacturers of the oil and the emulsions prepared from it have become frightened and are doing all in their power to prevent the growing popularity of the Wine from completely ruining their business. But the preparation is founded on the investigation of the celebrated French savant, Armand Gautier, who discov-

ered the active principles of cod liver oil long sought for, and published the results of his investigations in a paper presented to the French academy. This discovery is destined to make cod liver oil medication as exact as that resulting from the discovery of morphine in opium and quinine in Cinchona bark.

Another preparation does the house of Frederick Stearns & Co. much credit. We refer to "Hæmoferrum." It is well known that many attempts have been made by chemists to isolate from the blood the peculiar combination of iron and albuminous matter known as hæmoglobin. It is this hæmoglobin which gives to the blood its bright arterial color and renders it capable of performing its function as oxygen carrier. Until the introduction of Stearns' preparation of Hæmoglobin a pure, natural product had never appeared. Their preparation, however, gives the characteristic bands of oxyhæmoglobin (the highest form of hæmoglobin) in the spectroscope, and chemical analysis only serves to verify the accurateness of this instrument of precision in determining the purity of chemical substances by transmitted light. The hæmoferrum is placed on the market in pilloids, and as an elixir which has been named "Liquor Hæmoferri."

Of late years the seeds of the sterculia acuminata, popularly known as Kola nuts, have come into general use as a medicine, on account of its peculiar power in sustaining muscular and mental activity for a long time without reaction. Kola has been used from time immemorial by the natives of Africa as a muscular stimulant to prevent undue fatigue upon long exertion. Travellers were attracted by the marvellous tales concerning it several centuries ago, and it was tried in Europe unsuccessfully for the purposes recommended. Modern investigation, however, demonstrated that the fresh undried nut really possessed the power attributed to it, since which time Kola has come into general use. Kola was introduced into the United States by Frederick Stearns & Co., in 1881, but not until the more recent investigations did it become a popular medicine. The investigations of the Stearns' Fellowship of the University of Michigan, which are being continued for two years, have already demonstrated that the activity of Kola is due to a tannate of caffeine, which possesses all the stimulating powers of coffee, but is more sustained in its action on account of its sparing solubility in the alimentary canal, in which it is dissolved slowly, keeping up its action for a long space of time. A remedy of such marked virtues must necessarily find a place in the materia medica as the leader in the list of caffeine stimulants, and musculo-nervous tonics. It is displayed by Stearns & Co. in three forms. The first preparation introduced was a wine prepared by percolating the fresh seeds, the brand being designated by the word "Kolavin." The house then introduced an aromatized fluid extract under the trade designation "Kola-Stearns." To meet the large demand upon them from army quarters and bicyclers, athletes, etc., for a convenient preparation to be carried in marches, wheel-trips and athletic sports, a preparation has been recently introduced in the form of pastiles in which the extract is combined with a gum chicle basis. Each pastile represents 15 grains of fresh, undried, true African Kola.

Since the investigation of Sir William Roberts the use of artificial starch digestants has become very popular with the medical profession in the treatment of amylaceous dyspepsia. These preparations of diastase are from three sources, viz.: malt, fungus, and the pancreas of the pig. The latter has the advantage of being the kind of diastase which nature designed to be employed in the alimentary canal of animals. The products formed by it differ in many respects from those resulting from the action of diastase of vegetable order, and are more nearly fitted for animal nutrition. Add to this the marvelous activity of pancreatic diastase, which when properly prepared is capable of converting all the starch contained in an ordinary meal into sugar in an instant of time, even when employed in a comparatively small amount, and the physician has in his hands a most powerful aid to starch digestion. Frederick Stearns & Co. exhibit pancreatic diastase both in dry and liquid form. The former is offered in 2½ grain pilloids as "Diastase-Stearns," and the latter in the form of a delicious cordial, each teaspoouful of which contains two grains of this active digestive ferment.

Of late years there has been a large demand for the Serenoa serrulata, or Saw Palmetto, as a genito-urinary tonic, a drug from Southern United States. Its virtues were discovered by Dr. J. B. Read, whose introductory article appeared in the *American Journal of Pharmacy* for April, 1879. Since that time the drug has grown in reputation as a sexual tonic, sedative, diuretic, expectorant, and remedy for the catarrhal conditions of the mucous membranes in general. Triticum in the meantime has held its high reputation as a diuretic free from irritating qualities, and has been much used in the treatment of chronic urinary difficulties, on account of its bland and soothing nature. The combination of two such drugs, each highly recommended for the same class of troubles, but differing somewhat in method of action, yet working in harmony, naturally gives to this compound fluid extract a wider range of usefulness than either drug possesses alone. And, when the merits of the many aspirants for therapeutic favor in the treatment of genito-urinary affections of a chronic nature are considered, it will be found that none other offers such advantages as their preparation. This compound fluid extract has been devised by Frederick Stearns & Co., for the convenience of physicians who may desire to prescribe fresh Saw Palmetto and Triticum in combination. It has the advantage over extemporaneous prescriptions in that the proportions and vehicle have been so nicely adjusted that what in themselves are disagreeable medicines now become agreeable and acceptable to patients. This desirable result has been obtained at the cost of much experiment, so that the preparation represents more than the ordinary skill of the pharmacist. The word "Tritipalm" was coined by Frederick Stearns & Co. as their commercial signature (not as the name of the medicinal preparation) to distinguish their brand of Compound Fluid Extract of fresh Saw Palmetto and Triticum from other brands that may afterwards appear on the market.

A beautiful line of filled capsules without air, known as "Capsoids," also forms one of the attractive specialties, which, on account of their pharmaceutical elegance and the handsome packages in which they are

displayed, offer a form of medication pleasant to the eye and agreeable to the patient. There are more than fifteen drugs and compounds exhibited in this form, such as Apiol, chlorodyne, copaiba, creosote, cubebs, etc. Another line which has become a leading specialty with the house is that form of wafer known as the "Cachet." Probably this is the best of all forms for dispensing powders on account of the ease with which the little envelopes are swallowed. Frederick Stearns & Co. have distinguished themselves as manufacturers of sugar and gelatine-coated pills, fluid extracts, and other standard pharmaceuticals which, together with their specialties, form a most comprehensive list. Add to this their publication department with its scientific monographs, valuable commercial literature, and its two periodical publications, *The New Idea*, published as the organ of the house, and *The Pharmacologist*, published by Mr. F. K. Stearns, personally, aided by a corps of physicians and pharmacists well known in their respective professions, and we have in the house of Frederick Stearns & Co. an example of American pharmacy well worthy of emulation.

Messrs. Parke, Davis & Co., of Walkerville, Ontario (Home Offices and Laboratories, Detroit, Michigan, with branches and distributing depots throughout the world), occupied a very prominent position in the Annual Museum in connection with the British Medical Association meeting in Montreal.

The Museum catalogue shows their location as comprising Sections 7, 8 and 9. These sections were very neatly grouped together under a massive oak canopy, the drapery and decorations being specially arranged by Beulac, the well-known decorator of Montreal, while Martin, the florist, furnished the palms and other plants. A cluster of Auer lights in the centre of the canopy materially added to the appearance of the exhibit, enabling physicians more readily to examine the various disease germs and serum products displayed by this House.

We learn on enquiry that they now have the most extensive plant for the manufacture of Biological products in America, and, in keen competition with certain State-subsidized Health Boards, who also manufacture serum products in the United States, have recently secured contracts from several of the largest users solely on the merits of their product.

One feature which commends itself to the careful physician is the manner in which their Antitoxic serums are marketed, viz., in hermetically-sealed bulbs, the dose being adjusted entirely by units, irrespective of the quantity of serum employed.

Parke, Davis & Co.'s exhibit—a strictly scientific one—appeared to be the central rallying point of the various physicians who visited the Museum, and everyone seemed to appreciate not only the display made, but the courteous treatment accorded them by the representatives in attendance.

In addition to a most elaborate case of disease germs, Diphtheria Antitoxin and the various other serums prepared by this well-known firm, were to be found Culture Media tubes intended for hospital and private practice; Nuclein Solution 5% for hypodermatic or oral administration;

Germicidal Soap (McClintock formula); Serum and Hypodermatic Syringes, a late innovation being an improvement in antiseptic needles—Schimmel's patent. In another section was shown Golden Seal and its various products in the form of fluid extracts, powdered extracts, solid extracts, concentrations, alkaloids and other compounds; their justly celebrated Taka-Diastase, and a most convincing test was repeatedly executed for physicians by Mr. Jokichi Takamine, the discoverer of this product, with boiled starch paste, converting the solid paste into a watery solution in a few seconds.

Their pharmaceutical display was entirely of Canadian manufacture. Unlike some of the other manufacturers', this display consisted exclusively of stock packages, which, in our opinion, for purposes of this kind, form a vast improvement over the fancy packages ordinarily used, the quality of the contents being manifestly of greater importance than a cut-glass container, be it ever so elaborate.

The attention of visiting physicians was also called to a test showing the rapid disintegration of tablets, and a card bore an invitation to the physician to drop a tablet in a long cylinder of water and note its rapid disintegration. The test was made by hundreds of physicians present, and, in every case, the tablet, whether of Quinine, Acetanilid or other insoluble substance, ere it reached the bottom of the cylinder disintegrated and crumbled. The recent improvements in the manufacture of this special line leave little more to be desired.

A very fine exhibit was that made by Mr. R. L. Gibson, of 88 Wellington St. West, Toronto, comprising the well-known products of Duncan Flockhart & Co., Edinboro'—first Duncan's S. G. 1490 chloroform, which is practically non-decomposable under any circumstances. S. G. 1497, which contains about $\frac{1}{4}$ per cent. of alcohol; while this minute proportion of alcohol in no way affects its anæsthetic powers, it renders the chloroform practically non-decomposable. In procuring chloroform, the profession should see that the bottles bear their label, and have the stoppers sealed with one of their trade-mark stamps. There was also a fine exhibit of Blaud's Pills and Capsules, Maltine, etc.

Arthur P. Tippet & Co. made a splendid showing of Stower's Lime Juice, and were kept constantly busy in proffering refreshing drinks to the doctors. This firm also represents Lazenby & Co., and made an exhibit of their well-known soup squares. These squares have only to be added to boiling water to make an excellent and well-flavored soup.

It should be exceedingly gratifying to every Canadian to know that a malt extract is being made in Canada which is not surpassed by any malt extract on the face of the earth. The mere fact of its bearing the name of O'Keefe is a guarantee that it is the best that can be made. Mr. Wood induced Mr. O'Keefe to begin the manufacture of malt extract at the Big Brewery. It was not until after two years of experimenting

that it it was allowed to be placed on the market. Mr. O'Keefe, who is a true type of that Fine Irish Gentleman so ably depicted by Charles Lever, is possessed of that dogged pertinacity of purpose which will not be satisfied until everything he undertakes is brought absolutely to perfection, and this is the reason that the O'Keefe Brewing Co. is known all over Canada to-day as the leading brewery of the country.

The exhibit was in charge of Mr. W. Lloyd Wood, and doctors who tried it assured him that that there was no better malt extract made.

Any physician writing to W. Lloyd Wood, Toronto, who is well known to almost every doctor in Canada, will be furnished with a sample bottle, and all information concerning it.

THE BALL NOZZLE SYRINGE.

This was one of the best exhibits in the museum. No expense or pains had been spared in making preparations so that this excellent article could be properly displayed, water being introduced into the building and connected so it could be seen in actual service, and proved to be one of the most interesting features of the exhibition, almost every doctor stopping to examine it, and he would invariably pronounce it as one of the best syringes made. This syringe is as far ahead of the old-fashioned pipette as electric light is of the candle, the water being controlled by a ball and comes out in a soft, conical-shaped flow. This hollow stream thoroughly cleanses the mouth and neck of the womb and cul de sac, removing every particle of foreign matter.

The Ball Nozzle Co. have opened an extensive suite of offices in the Confederation Life building in Toronto, and if any physician will write them to that address they will forward them with all particulars.

It is almost remarkable the rapidity with which this syringe has come into public favor, the company being constantly in receipt of orders from all parts of the country from the Atlantic to the Pacific; but the fact of its being a thoroughly good syringe, at a comparatively low price, it is meeting with the success it so well deserves. Every physician should recommend his patients to use this syringe, particularly in delicate cases.

ARMOUR & CO.

Every physician knows Armours, but they are much more intimately acquainted since the meeting in Montreal. The exhibit was in charge of Doctors Roberts and Wimmer, who were constantly displaying the different products of the large firm and explaining their uses to the visiting doctors. The exhibit comprised Armour's Pepsin in scale guaranteed to be five times the B P. strength. Pepsin insoluble P.O. 1.3000. Pepsin precipitated P.O. 1.3000. Pepsin tablets 3 grains each equal to 15 grains B.P. Pepsin peptonizing tablets specially prepared for predigesting infants' and invalids' foods. Nutrient wine of beef peptone, glycerole and essence of pepsin pancreation in different forms. Thyroid tablets, extract of red bone marrow, beef juice and the well-known Vigoral. Extract of red bone marrow is made by macerating the marrow of young calves' bones in glycerine and is very efficacious in cases of leucocythalmia.

BRAND & CO.

One of the few English firms to make an exhibit was Messrs. Brand & Co., of Mayfair, London. This exhibit was an excellent one, and was personally looked after by Mr. H. Vincent Robinson.

Perhaps the most noteworthy feature of the exhibit was a delicious meat jelly. This preparation will be simply invaluable in sick rooms, as it can be retained by the most delicate stomach when it will refuse all others. Anyone returning from England will bring back pleasant memories of Brand's A1 Sauce, which is simply indispensable at an English dinner table. We are glad to say Messrs. Brand & Company intend opening a Canadian branch, and, consequently, it can then be easily procured by everyone. There was also an excellent display of beef lozenges, beef extract, etc. Messrs. Brand & Co. were amply repaid for their enterprise, Mr. Robinson being continually engaged in showing the different lines to physicians, who passed very high encomiums upon them.

A very attractive new idea was presented by Messrs. Geo. G. London, of 13 Hancock street, Boston. This was Holland's Improved Instep-arch Supporter. This little instrument is very light in weight, is made in all sizes and fits nearly into the boot. The *British Medical Journal* says of this, under date November 10th, 1893, "The instep arch supporter has been long and widely used, and the new form appears to embody a distinct improvement. A tracing of the foot is the best guide to size, and any physician can get full particulars by writing Mr. London to above address."

Lyman, Sons & Co., of St. Paul street, Montreal, had, undoubtedly, the finest display of surgical instruments in the museum. It included all the latest most improved patterns, the particulars of which were most ably explained by Mr. Walters, who was constantly in attendance. It was an excellent opportunity for a surgeon to obtain the latest improvements in instruments, and it was astonishing, judging from Mr. Walters' order book, the very large number who availed themselves of it. They also had a fine line of Messrs. Howard & Sons, Stratford, Eng., as Howard's Camphor, Howard's Cocaine, Howard's Quinine, Howard's Soda Bicarb., etc.

One great feature of Messrs. Lyman Bros. is hospital glassware. In this line they carry the largest stock in Canada and also stock Leitz's microscopes, Marsh's stethophones, antitoxin syringes, chloride of silver dry cell batteries, Arnold's sterilizers, aluminum ether cones, medical centrifuges, etc.

A bit of enterprise was evinced by Down Bros., 21 St. Thomas Street, London, England, in sending a fine exhibit of all kinds of sugical instruments, new and original models of aseptic cases, suitable for all departments of surgery, anæsthetic apparatus, ether inhaler with double water jacket, anastomosis bobbins, buttons, etc., of the most recent designs, antitoxin syringes, antrum instruments in recent models, aseptic furniture for

the operating theatre and wards of hospitals, also for surgeons' consulting and private rooms, Aymard's milk sterilizes in various sizes. Mr. Shearman came out with the collection, and made many friends amongst the different surgeons.

PABST MALT EXTRACT.

The "Best" Tonic. Very many had the pleasure of sampling this excellent preparation. This extract of malt is more of a medicinal product than a beverage. The color, flavor and chemical analysis denote the exclusive use of malt and hops in its preparation, besides a perfect system of brewing. It is characterized for its palatibility, and contains a very high percentage of extractive matter, which makes it a good food product.

S. KUTNOW & CO., LIMITED, LONDON, ENGLAND.

This was another English firm who grasped the opportunity, but they went a step farther, and were represented by the genial President of the Company himself, Mr. S. Kutnow, who came out personally to superintend the exhibit. He was ably supported by his brother from New York, who is the manager of the American branch of the business. Kutnow's Improved Effervescent Carlsbad Powder will shortly be known all over Canada if the large number of physicians who expressed themselves most favorably regarding it is a criterion. It is a beautifully clear and white powder, and is prepared by the ingenious expedient of desiccating the salts containing the active principle of the mineral waters, and adding effervescents thereto—thus producing the efficacy of this world-renowned spring.

EVANS & SONS, LIMITED.

Wherever there is a member of the medical profession in the world it is open to question if the name of Evans & Son is not well known. Their laboratories and drug mills are fully equipped for the manufacture of all preparations relating to pharmacy. The exhibit was particulary large. Sugar-coated pills, Elixirs, Fluid Extracts, Fossiline Elixir Digest , Wine of Creasote, Evans' Essence of Pepsin. A fine showing was made of Savaresse's Santal Capsules. These capsules being made of membrane are free from the objections to all gelatine capsules. They do not dissolve until they have left the stomach for the intestine, thus avoiding all nausea and eructations. Montserrat Lime Fruit Juice was of course very much in evidence and was largely partaken of by the visitors.

H. R. IVES & CO.

Messrs. H. R. Ives & Co., the well-known manufacturers and founders, had a magnificent exhibit of brass and iron bedsteads which were as near perfection as they could possibly be brought. They were specially adapted for Hospitals, Sanitariums, etc., and will undoubtedly find a very ready sale. This firm also manufactures the B.M. Interlaced Sanitary Mattress, which are made purely of hair, and are always clean, comfortable, durable

and economical, and from the great ease in disinfecting them they should be prescribed by every physician.

ALPHA RUBBER CO.

A wonderful exhibit was that made by the Alpha Rubber Co., of Montreal, consisting of all kinds of Invalid Rugs and Cushions, Ice Bags, Alpha Atomizers, Bed Pans, Urinals. The Alpha Patent Atomizer, the special feature of which is the tube connecting the bulb with the hard rubber spray. It is so constructed as to expand and contract. On this account it forms a self-acting expelling reservoir which forces its supply of air forward into the spray. With the Alpha Atomizer an absolutely continuous spray is produced with a minimum of fatigue to the hand. The Alpha Catheter, with the depressed eye, will recommend itself to the profession. The material of which it is made is guaranteed not to swell or decompose in urine.

H. K. WAMPOLE & CO.

H. K. Wampole & Co. (Philadelphia, Pa.) had an exhibit arranged in a most attractive manner in a richly carved oak canopy, in the main aisle near the rear of the building, but notwithstanding the fact that it was somewhat removed from the door, there was always a crowd of physicians drinking in the words of wisdom as they flowed from this firm's popular Toronto representative. The preparations shown were: Wampole's Tasteless Cod Liver Oil, which is a solution of the combined alkaloid and other active medicinal principles of cod liver oil, all the oily or fatty portion being eliminated. Then on the shelves were arranged Compound Syrup of White Pine, Syr. Hydriodic Acid, Asparoline Compound, Hypnobromic Compound, Antiseptic Solution, Compound Syrup of Hypophosphites, Tasteless preparation of Cascara Bark, Saw Palmetto Wine, Kola Wine, etc., etc. Wampole's Asparoline compound is now well known to the medical profession, being almost a specific remedy for dysmenorrhœa, and is composed of parsley seed, black haw, asparagus seed, henbane leaves and aromatics. Wampole's Hypnobromic Compound contains hydrate of chloral, bromide of potass, extract cannabis indica, extract of hyoscyamus and morphia. It has been found valuable in cases of sleeplessness due to hysterical conditions, and is having a very extensive sale. We cannot but say that Wampole & Co. are fortunate in having a Canadian representative who is so very popular with the doctors.

E. B. SHUTTLEWORTH CHEMICAL COMPANY, LIMITED.

We would beg to draw the attention of physicians generally throughout the country to an exceptionally well gotten up and particularly large catalogue recently issued by the E. B. Shuttleworth Chemical Company, Limited, Manufacturing Chemists, Toronto. This company is purely Canadian, the directorate consisting of prominent Canadian medical men and pharmacists. The catalogue is a very complete little manual, very

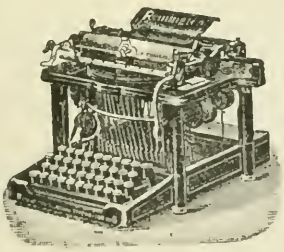
tastefully gotten up, and comprises almost everything of use to the physician, and will be of great service to him. One of their principal preparations is Shuttleworth's Aromatic Cascara, a fluid extract of prime cascara sagrada bark. They also manufacture all Kidney Pills and Compressed Tablets. They have departed from old time ideas and are offering to physicians a net price list, thereby saving them at least 30 per cent., which little fact will no doubt be much appreciated by the profession. As a book of reference, the foot-note giving the therapeutic value after each preparation will be much appreciated. Messrs. Shuttleworth will be pleased to forward this excellent catalogue to any physician, with all particulars, who will kindly address them at 53 Colborne Street.

A very attractive stand was that of the Abbey Effervescent Salt, piled tier upon tier in well-shaped bottles. They presented a very imposing appearance. This preparation deserves every good word which is said of it. A sample of it was offered to each physician, and most favorably was it commented upon, one eminent doctor giving his opinion that there was no better Effervescing Salt made, not even in England, and particularly pointed out that the state of effervescence remained to the last drop. There is no doubt but that the daily use of this Salt will be a great preventive and aid in warding off the attacks of disease. We predict for Abbey's Effervescent Salt an extremely large sale throughout Canada.

The....

REMINGTON

Typewriter



New Models 6 and 7.

Is used and endorsed by all the leading members of the medical profession throughout the world. . . . . .

Send for particulars of special medical key board. . . . . .

Edison's Mimeograph

Duplicates many copies from one original. Particulars and sample of work on application.

Spackman & Archbold, MONTREAL AND TORONTO
Largest Typewriter Dealers in Canada

The

CANADA LANCET

HAS THE

LARGEST CIRCULATION

OF ANY

MEDICAL JOURNAL

IN CANADA.

SAFFORD QUEEN OF RADIATORS
FLORENCE
225 SIZES
20 PATTERNS
NO BOLTS
NO PACKING
THE TORONTO RADIATOR MFG CO LTD
TORONTO ONT

Announcement.

It is now 18 years since Professor E. B. Shuttleworth commenced to manufacture Fluid Extracts, Pharmaceutical Preparations and Specialties. During this time his products have grown in favor with the Medical Profession and Druggists throughout Canada.

For the purpose of further extending the line this Company was organized and incorporated during the present year, Prof. E. B. Shuttleworth has fully identified himself with it, and all future additions to this catalogue will have his endorsation.

The preparations of this Company are produced to meet the requirements of the kindred professions of Medicine and Pharmacy, and one of the conditions of Prof. E. B. Shuttleworth's connection with the Company is that its manufactures shall be entirely restricted to compounds prescribed by physicians.

Our policy will be to keep pace with modern Pharmacy, and manufacture preparations of an exact and uniform character which may, with perfect confidence, be accepted by the Medical Profession as being in all respects of standard quality and strength.

The revised Price List gives a general idea of the lines manufactured by us, and the range of prices at which they are sold. Variations from the quoted prices will depend upon the quantity ordered.

The E. B. Shuttleworth Chemical Company, Limited.

E. B. SHUTTLEWORTH, Phar. D., F.C.S., President.
H. W. AIKINS, M.D., Vice-President. W. A. HOWELL, Sec.-Treas.
GEO. W. PARSONS, Manager.

Send for our Catalogue Containing the Most Recent Formulas.

NEW HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM.

DR. MEYERS (M.R.C.S. Eng., L.R.C.P., Lond.) desires to announce to the Profession that he has obtained a large private residence which he has thoroughly furnished with all home comforts, and in which he is prepared to receive a limited number of patients suffering from

DISEASES of the NERVOUS SYSTEM

DR. MEYERS devotes his attention exclusively to the treatment of these diseases, for which he has especially prepared himself by several years' study, both in England and on the Continent. He has trained nurses, a skilled masseuse (Diploma Philadelphia), also all forms of electricity and other appliances which are so necessary for the satisfactory treatment of these cases.

This is the only Institution at present in Canada in which Nervous Diseases only are treated.

Massage given to patients in their own homes when desired,

For Terms, etc., apply to

CAMPBELL MEYERS, M. D.,

Deer Park, Toronto.

H. R. IVES & CO.,

QUEEN STREET, Montreal.

Manufacturers of . . . .

The Buffalo Water Heater

Ornamented Iron Work -

All Kinds of . . . . . .

Brass and Iron Bedsteads

Suitable for Hospitals, Sanitariuns, Etc.

The B. M. Interlaced Sanitary Mattresses

Illustrated Catalogue on Application.

THE GREAT BALL NOZZLE
FOUNTAIN SYRINGE
CLEANSES THOROUGHLY ALL THE PARTS
AND IS THE ONLY SYRINGE THAT DOES
BALL NOZZLE COMPANY
USE ONLY THE GREAT
BALL NOZZLE SYRINGE
ACCOMPLISHES WONDERS
FOR THE HEALTH OF WOMEN
CLEANSES THOROUGHLY THE CUL-DE-SAC
ENDORSED BY HIGHEST MEDICAL AUTHORITY
SEND FOR PRIVATE CIRCULAR
THE BALL NOZZLE COMPANY

The Ball Nozzle Syringe diffuses a soft, gentle, conical-shaped film of water, *reaching every part of the vaginal cavity*, cleansing thoroughly the mouth and neck of the womb and the *cul-de-sac*, and removing therefrom every particle of foreign matter, the presence of which is the cause of disease, pain and suffering. Its effect is one of gentle bathing, or spraying, rather than one of percussion, such as follows the application of a solid straight stream. This absence of force is absolutely necessary in applications to sensitive organs. The stream is curved in every direction, and is a hollow stream; it is therefore impossible for it to enter a practically straight canal such as the uterine canal.

The Ball Nozzle Syringe

Accomplishes Wonders for the Health of Women.
Endorsed by the Highest Medical Authorities. . .

SEND FOR PRIVATE CIRCULAR.

MANUFACTURED BY . . . . . .

The Ball Nozzle Co. Limited

Confederation Life Building, TORONTO

PERSONAL HYGIENE

Wampole's Antiseptic Solution

(FORMOLID)

A very superior and concentrated preparation
A Non-toxic Antiseptic and Germicide
Absolutely Safe, Internally and Externally

NON-IRRITANT **PROPHYLACTIC**

COMPOSITION

Formaldehyde - - - -	$\frac{1}{6}$ per ct.
Acetanilid - - - - -	$\frac{1}{2}$ "
Boroglyceride - - - -	1 "
Sodium Benzo-Borate - - -	3 "
Eucalyptol, Thymol	
Menthol, Ol. Gaultheria	
Alcohol, Witch Hazel	

Mouth Wash, Gargle, Douche. A General Healing Antiseptic for Wounds, Cuts, Bruises, Etc., Etc.

Retail Price **FIFTY CENTS** for a full sixteen-ounce bottle. Special Price in bulk for Dispensing, Hospitals, Etc. Trade size at Druggists.

SAMPLES for trial sent free of cost upon application to us.

PREPARED BY

HENRY K. WAMPOLE & CO.

Manufacturing Pharmacists

PHILADELPHIA, PA., U.S.A.

Chloroform and

Pure. Lyman's S.G. 1.49.

Ether Sulphuric

Pure. Lyman's S.G. 0.725.

For Anæsthetical Purposes.

(The above have been manufactured by our firm for over forty years, and are being used by leading Surgeons and Physicians in Canada.)

The late **Dr. J. H. McCollum** said of our Chloroform, "that during the nearly five years that I held the position of Medical Superintendent of the *Toronto General Hospital*, the Chloroform manufactured by **The Lyman Bros. & Co., Limited,** was administered to about *one thousand* annually, and in no case had we fatality from it. *I have also used it for thirteen years* in private practice."

Dr. T. G. Johnson, Sarnia, says: "For the last six or seven years I have used no other Chloroform than that manufactured by **The Lyman Bros. & Co., Limited,** both in surgical and obstetrical practice, and have had, and still have, every reason to be thoroughly satisfied with it."

We Claim the Following Advantages

1st. Its Comparative Cheapness.
2nd. The Stage of Excitement is not Nearly as Great as with Other Makes.
3rd. The After-Effects are not so Pronounced.
4th. No Offensive Odor During Administration.

D. C. O'Reilly, Medical Superintendent of the *Toronto General Hospital*, says of our Ether Sulphuric: "During the last several years the Ether manufactured by **The Lyman Bros. & Co., Limited,** has been extensively used for anæsthetical purposes in *Toronto General Hospital*, and no accident has taken place from its administration."

Dr. James F. W. Ross says: "I have overcome my former prejudice against Ether, but **The Lyman Bros. & Co., Limited,** are now supplying an article put up in ¼ and ½ lb. tins equal to any in the market. I have used it frequently, and have seen it used by others during the last twelve months for operations of all degrees of severity. The after-effects are no greater than after Squibb's or any other pure Ether."

We claim for this Absolute Purity and Comparative Cheapness.

When Ordering Specify LYMAN BROS.

THE LYMAN BROS. & CO., LIMITED, - TORONTO.

O'KEEFE'S Liquid Extract

Of..... MALT

Carefully prepared from the best Canadian Barley Malt, and English and Bohemian Hops. . . . .

Containing no Foreign Matter.

Lowest Possible Percentage of Alcohol. . . . . .

All particulars will be gladly sent to any physician addressing :

W. LLOYD WOOD,

Wholesale Druggist,

Toronto.

British America Assurance Company

Incorporated 1833.

Head Office .... *TORONTO, ONT.*

Agencies in every principal city and town in Canada.

Cash Capital, $750,000,00 - - - Assets, $1,436,958.84

Losses Paid Since Organization, $16,067,722.56

DIRECTORATE:

HON. GEO. A. COX,
President.

J. J. KENNY,
Vice-President and Managing Director.

HON. S. C. WOOD,
S. F. McKINNON,
THOMAS LONG.

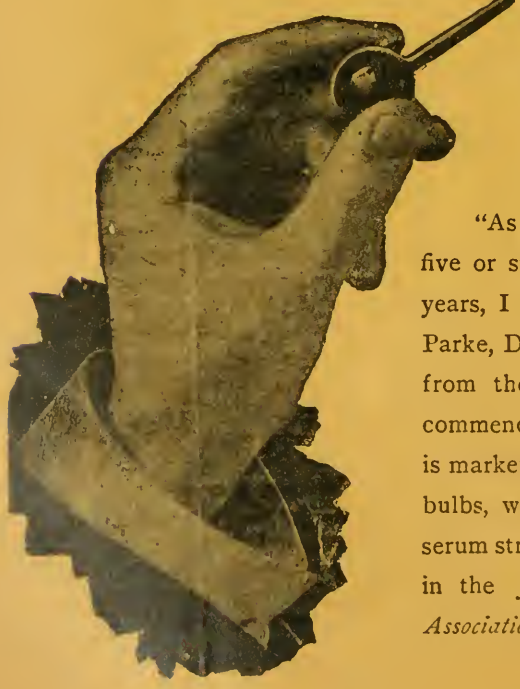
JOHN HOSKIN, Q.C., LL.D.,
ROBERT JAFFRAY,
AUGUSTUS MYERS.

H. M. PELLATT.

Every Retail Pharmacy is a Depot for Our Serums.

If your druggist has not the Antitoxin on hand, it can be wired for to our Laboratory in Walkerville, or to the following firms who receive fresh supplies weekly:

THE S. B. CHANDLER, SON & CO., (Limited),	Toronto.
MESSRS. LYMAN, KNOX & CO.,	Toronto.
THE LYMAN BROS. & CO., (Limited),	Toronto.
MESSRS. ARCHDALE, WILSON & CO.,	Hamilton.
MESSRS. J. WINER & CO.,	Hamilton.
MESSRS. KERRY, WATSON & CO.,	London.
MESSRS. J. A. KENNEDY & CO.,	London.



HERMETICALLY SEALED

"As to the antitoxin to use, having tried five or six different makes in the past two years, I have found that manufactured by Parke, Davis & Co. most efficacious. Apart from the potency of this brand, I must commend the ingenious manner in which it is marketed, viz., in hermetically-sealed glass bulbs, which exclude the air and keep the serum strictly aseptic."—DR. GEO. DUFFIELD, in the *Journal of the American Medical Association*, March 6th, 1897, page 446.